REPORT

OF THE

Health Department

OF

The Panama Canal

FOR THE

CALENDAR YEAR

1925

W. P. CHAMBERLAIN
Colonel, Medical Corps, United States Army
Chief Health Officer

Dr. D. P. CURRY
Assistant Chief Health Officer

THE PANAMA CANAL PRESS
MOUNT HOPE, C. Z.
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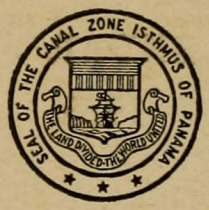

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LETTER OF TRANSMITTAL.

THE PANAMA CANAL, HEALTH DEPARTMENT,
BALBOA HEIGHTS, C. Z., *August 1, 1926.*

Colonel M. L. WALKER,
Governor, The Panama Canal,
Balboa Heights, Canal Zone.

SIR: I have the honor to submit the following report of the operations of the Health Department for the calendar year 1925.

Respectfully,

W. P. CHAMBERLAIN,
Chief Health Officer.

HEALTH DEPARTMENT.

OPERATION AND ORGANIZATION.

The operation and organization of the Health Department is the same as described in the report for the calendar year 1923, with the exception that Santo Tomas Hospital, in the city of Panama, R. P., ceased to be under the jurisdiction of the Health Department, September 1, 1924.

PERSONNEL.

There has been no change in the higher supervisory personnel except that Maj. John Wallace, Medical Corps, U. S. Army, relieved Maj. Tom S. Mebane, Medical Corps, U. S. Army, as Superintendent of Colon Hospital effective January 24, 1925. For total force employed by the Health Department, see Table XV. On December 31, 1925, there were 224 white employees and 761 colored. The white force was divided as follows:

27 physicians, medical officers of the U. S. Army.
1 physician, Surgeon U. S. Public Health Service.
27 physicians, civilians.
6 internes.
7 male nurses.
88 female nurses.
20 clerks
11 sanitary inspectors.
2 quarantine inspectors.
4 veterinarians.
7 technicians.
8 dispensary assistants.
3 pharmacists.
13 miscellaneous—storekeepers, chemists stewardesses, carpenters, foremen mechanics.

FINANCIAL STATEMENT.

The funds for the operation of the Health Department are derived partly from a specific appropriation made annually by Congress and partly from the earnings of the department, which at present slightly exceed the appropriation. The accounts of The Panama Canal are kept by fiscal years and the figures shown at top of next page are a summary for the fiscal year ending June 30, 1925:

TOTAL EXPENDITURES OF HEALTH DEPARTMENT.

Gold pay roll (white employees)	$464,808.53
Silver pay roll (colored employees)	341,540.92
Subsistence supplies	169,576.98
Ice	4,908.82
Hospital supplies and drugs	52,418.35
Equipment	23,820.98
Miscellaneous supplies	70,665.32
Laundry	29,182.63
Telephones	12,651.87
Deportation of patients physically or mentally disabled	3,762.92
Medical storehouse operation	8,250.06
Launch service	6,358.55
Electric current	10,739.11
Electrical repairs and installations	9,705.86
Water	13,080.43
Operation of garbage incinerator, Colon	24,235.98
Motor transportation (except for hospitals) and repairs	51,601.96
Rentals	11,795.92
Miscellaneous charges for services of other Panama Canal departments	11,234.88
Totals	$1,320,340.07

EXPENDITURES AND EARNINGS OF SUBDIVISIONS OF HEALTH DEPARTMENT.

Subdivision.	Expenditures.	Earnings.	Per cent self supporting.
Ancon Hospital, 1,200 beds	$567,500	$339,100	60%
Colon Hospital, 80 beds	91,000	44,500	49%
Corozal Hospital for the Insane, 480 beds	136,500	117,300	86%
Palo Seco Leper Colony, 100 beds	40,900	18,200	45%
Maritime Quarantine Service	74,000	37,000	50%
Sanitation of the cities of Panama and Colon	76,000	15,000	20%
Street cleaning and garbage collection and disposal, cities of Panama and Colon	122,000	73,100	60%
Canal Zone Sanitation	126,000	46,300	37%
Line Dispensaries	47,550	16,000	34%
Medical Storehouse	8,250		
Chief Health Office and miscellaneous	30,640	1,900	6%
Totals	$1,320,340	$708,400	54%

SUMMARY OF VITAL STATISTICS[1] REGARDING EMPLOYEES ONLY[2]

The admission rate to hospitals and quarters, from all causes, has been as shown in Chart No. 1 at top of opposite page:

[1] All rates throughout this report are computed as annual per 1,000.

[2] Includes all employees of The Panama Canal and the Panama Railroad on the Isthmus; that is, in the Canal Zone, and cities of Colon and Panama.

Active sanitary work in the Canal Zone and in the cities of Colon and Panama was undertaken by the United States soon after the control of the property of the French Canal Company was taken over in May, 1904. Tables are therefore carried as far back toward that date as figures are available, to give a comparison of the results of work done since.

CHART NO. 1.

Year.	Average number employed.	Rate.
1906	26,547	1,779
1907	39,238	1,419
1908	43,890	1,132
1909	47,167	887
1910	50,802	905
1911	48,876	896
1912	50,893	727
1913	56,654	519
1914	44,329	420
1915	34,785	320
1916	33,176	283
1917	32,589	357
1918	25,520	406
1919	24,204	550
1920	20,673	672
1921	14,389	620
1922	10,447	490
1923	10,976	485
1924	11,625	513
1925	12,180	519

The total admission rate to hospitals was 160.84 in 1925, as compared with 151.57 in 1924, and 155.90 in 1923. From disease alone the admission rate to hospitals in 1925 was 140.64, as compared with 130.32 in 1924, and 133.48 in 1923.

The death rate, from all causes, has been as follows:

CHART NO. 2.

Year.	Average number employed.	Rate.
1906	26,547	41.73
1907	39,238	28.74
1908	43,890	13.01
1909	47,167	10.64
1910	50,802	10.98
1911	48,876	11.02
1912	50,893	9.18
1913	56,654	8.35
1914	44,329	7.04
1915	34,785	5.77
1916	33,176	6.03
1917	32,589	7.09
1918	25,520	8.11
1919	24,204	7.23
1920	20,673	8.70
1921	14,389	6.46
1922	10,447	6.89
1923	10,976	6.65
1924	11,625	7.23
1925	12,180	8.95

The death rate from disease alone for 1925 was 7.72, as compared with 5.51 in 1924, and 6.10 in 1923.

The noneffective rate, from all causes, has been as follows:

CHART NO. 3.

Year.	Average number employed.	Rate.
1906	26,547	28.48
1907	39,238	25.09
1908	43,890	22.31
1909	47,167	21.93
1910	50,802	24.37
1911	48,876	24.46
1912	50,893	21.11
1913	56,654	15.97
1914	44,329	12.22
1915	34,785	10.28
1916	33,176	9.20
1917	32,589	9.65
1918	25,520	11.19
1919	24,204	14.29
1920	20,673	14.87
1921	14,389	13.96
1922	10,447	14.81
1923	10,976	13.78
1924	11,625	13.51
1925	12,180	13.77

The 6 diseases causing the highest number of hospital admissions, with their rates, were as follows:

	1924.		1925.	
	Admissions.	Rate.	Admissions.	Rate.
Malaria	190	16.34	[1] 330	[1] 27.09
Venereal diseases	194	16.69	180	14.78
Diseases of the eyes and their annexa	83	7.14	71	5.83
Bronchitis (acute and chronic)	41	3.53	46	3.78
Influenza	34	2.92	31	2.55
Tuberculosis (various organs)	28	2.41	25	2.05

The 6 diseases causing the highest number of deaths, with their rates, were as follows:

	1924.		1925.	
	Deaths.	Rate.	Deaths.	Rate.
Organic diseases of the heart	6	.52	14	1.15
Tuberculosis (various organs)	12	1.03	13	1.07
Pneumonia (broncho and lobar)	5	.43	9	.74
Apoplexy	5	.43	9	.74
Nephritis (acute and chronic)	7	.60	8	.66
Cancer (various organs)	6	.52	6	.49

The admission rate to hospitals from disease, and death rate from disease, for white employees, were 206.85 and 2.88, respectively, as compared with 117.81 and 9.39 for black employees.

The death rate from disease for American (white) employees was 2.57, as compared with 4.14 for 1924, and 4.87 for 1923.

[1] 134 of these admissions were from Bruja Point, where a gang of men was doing construction work in a temporary camp, three miles beyond our sanitated areas. The rate, excepting these cases, is 16.09.

SUMMARY OF VITAL STATISTICS FOR THE CANAL ZONE—EMPLOYEES AND NONEMPLOYEES.

From an average population of 34,840 in the Canal Zone, there were 297 deaths during the year; 241 of these were from disease, giving a rate of 6.92, as compared with 8.01 for 1924, and 7.14 for 1923.

The death rate from tuberculosis was 0.89, as compared with 1.01 for 1924, 0.69 for 1923, 0.74 for 1922, and 0.64 for 1921. Tuberculosis caused 13 per cent of all deaths from disease during the year, as compared with 13 per cent in 1924, 10 per cent in 1923, 10 per cent in 1922, and 9 per cent in 1921.

There were 616 live births reported during the year, giving a birth rate of 17.68. (See Table VII, page 51). Of these, 193 were white, and 423 were black. Of the total births reported, 5 per cent were stillbirths.

Deaths among children under 1 year of age, from all causes, totaled 48, of which 7 were white and 41 were black, giving an infant mortality rate, based on the number of live births reported during the year, of 36.27 for white children, 96.93 for black children, and a general average of 77.92.

Of the total deaths for all ages, 16 per cent occurred among children under 1 year of age, and 27 per cent among children under 5 years of age.

Below is a chart showing the death rates in the Canal Zone from 1905 to 1925, from all causes:

CHART No. 4.

Year.	Population.	Deaths.	Rate.
1905	23,463	828	35.29
1906	34,095	1,700	49.86
1907	54,036	1,708	31.60
1908	67,146	1,273	18.95
1909	76,900	1,025	13.33
1910	86,465	1,251	14.47
1911	90,434	1,385	15.32
1912	79,279	1,129	14.24
1913	61,700	1,047	16.97
1914	46,379	710	15.31
1915	31,496	410	12.83
1916	31,447	343	10.91
1917	33,044	328	9.93
1918	33,803	286	8.49
1919	32,366	247	7.63
1920	27,459	242	8.81
1921	31,377	236	7.52
1922	31,098	254	8.17
1923	31,793	253	7.96
1924	33,723	305	9.05
1925	34,840	297	8.53

SUMMARY OF VITAL STATISTICS FOR PANAMA CITY—EMPLOYEES AND NONEMPLOYEES.

From an estimated population of 59,635, there were 1,169 deaths during the year. Of these, 1,126 were from disease, giving a rate of 18.88, as compared with 18.92 for 1924, and 18.08 for 1923.

The 6 diseases causing the highest number of deaths, with their rates, were as follows:

	1924.		1925.	
	Deaths	Rate	Deaths.	Rate.
Tuberculosis (various organs)	191	3.20	219	3.67
Pneumonia (broncho and lobar)	237	3.97	156	2.62
Nephritis (acute and chronic)	83	1.39	119	2.00
Diarrhea and enteritis (including colitis)	104	1.74	86	1.44
Organic diseases of the heart	77	1.29	79	1.32
Cancer (various organs)	50	.84	53	.89

The death rate from tuberculosis was 3.67, as compared with 3.20 for 1924, 3.35 for 1923, 3.76 for 1922; and tuberculosis caused approximately 19 per cent of all deaths from disease, as compared with 17 per cent in 1924, 18 per cent in 1923, 18 per cent in 1922, and 17 per cent in 1921.

There were 2,220 live births reported during the year, giving a birth rate of 37.23. Of the total births reported, 5 per cent were stillbirths.

There were 260 deaths among children under 1 year of age, giving an infant mortality rate, based on the number of live births reported during the year, of 117.12.

Of the total deaths for all ages, 22 per cent occurred among children under 1 year of age, and 32 per cent among children under 5 years of age.

Below is a chart showing the death rates in Panama City from 1905 to 1925, from all causes:

CHART NO. 5.

Year.	Population.	Deaths.	Rate.
1905	21,984	1,447	65.82
1906	25,518	1,142	44.75
1907	33,548	1,156	34.45
1908	37,073	1,292	34.83
1909	40,801	1,038	25.44
1910	45,591	1,446	31.72
1911	46,555	1,456	31.27
1912	47,057	1,380	29.33
1913	47,172	1,507	31.95
1914	53,948	1,863	34.53
1915	60,373	1,810	29.98
1916	60,778	1,765	29.04
1917	61,074	1,714	28.06
1918	61,369	1,314	21.41
1919	61,369	1,211	19.74
1920	60,500	1,297	21.44
1921	60,500	1,336	22.09
1922	60,068	1,279	21.29
1923	59,635	1,106	18.55
1924	59,635	1,168	19.59
1925	59,635	1,169	19.60

SUMMARY OF VITAL STATISTICS FOR COLON—EMPLOYEES AND NONEMPLOYEES.

From an estimated population of 31,285, there were 401 deaths during the year; of these, 379 were from disease, giving a rate of 12.12, as compared with 14.54 for 1924, and 12.05 for 1923.

The 6 diseases causing the highest number of deaths, with their rates, were as follows:

	1924.		1925.	
	Deaths.	Rate.	Deaths.	Rate.
Tuberculosis (various organs)	82	2.62	63	2.01
Pneumonia (broncho and lobar)	56	1.79	38	1.21
Nephritis (acute and chronic)	36	1.15	29	.93
Diarrhea and enteritis (including colitis)	37	1.18	27	.86
Apoplexy	22	.70	23	.73
Organic diseases of the heart	38	1.21	20	.64

The death rate from tuberculosis was 2.01, as compared with 2.62 for 1924, 1.92 for 1923, 2.55 for 1922, and 2.30 for 1921. Tuberculosis caused approximately 17 per cent of all deaths from disease, as compared with 18 per cent in 1924, 15 per cent in 1923, 19 per cent in 1922, and 13 per cent in 1921.

There were 769 live births reported during the year, giving a birth rate of 24.58. Of the total births reported, 4 per cent were stillbirths.

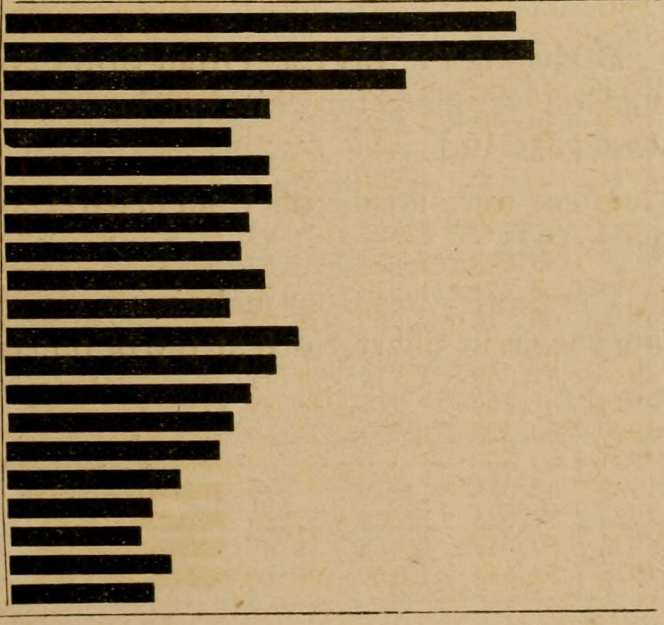
There were 90 deaths among children under 1 year of age, giving an infant mortality rate, based on the number of live births reported during the year, of 117.04.

Of the total deaths for all ages, 23 per cent occurred among children under 1 year of age, and 31 per cent among children under 5 years of age.

Below is a chart showing the death rates in Colon from 1905 to 1925, from all causes:

CHART NO. 6.

Year.	Population.	Deaths.	Rate.
1905	11,176	553	49.48
1906	13,651	703	51.42
1907	14,549	571	39.24
1908	15,878	418	26.32
1909	17,479	396	22.65
1910	19,535	514	26.31
1911	19,947	527	26.42
1912	20,174	493	24.44
1913	20,232	489	24.17
1914	23,265	590	25.36
1915	29,331	640	21.82
1916	24,693	696	28.19
1917	25,386	667	26.27
1918	26,078	616	23.62
1919	26,078	573	21.97
1920	26,078	554	21.24
1921	28,789	497	17.26
1922	31,393	445	14.17
1923	31,285	393	12.56
1924	31,285	475	15.18
1925	31,285	401	12.82



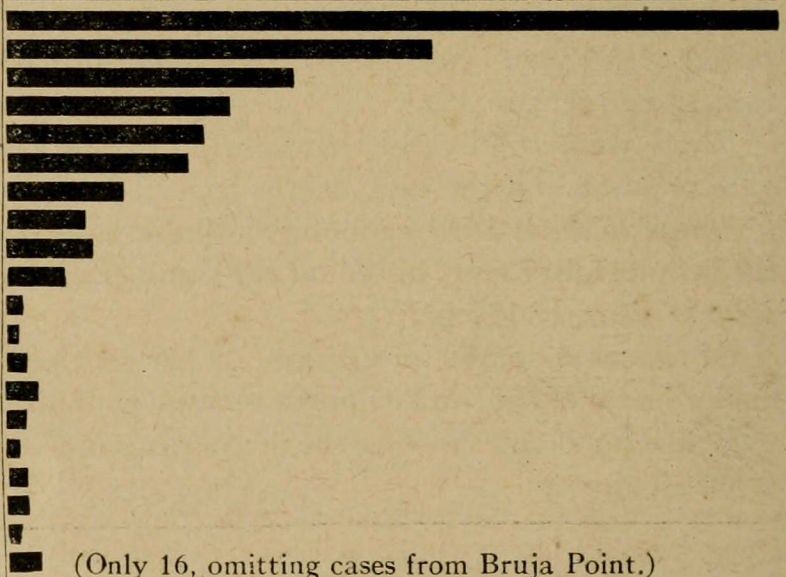
SUMMARY OF STATISTICS REGARDING MALARIA.

A total of 330 employees were admitted to hospitals and treated in quarters for malaria, giving a rate of 27.09 per 1,000. Of this total, however, 134 cases originated among employees engaged in fortification work at Bruja Point which is an unsanitated area; if these were omitted there would have been but 196 employees treated for malaria during the entire year, or 16.09 per 1,000.

The admission rate from malaria among employees has been as follows:

CHART NO. 7.

Year.	Average number employed.	Rate.
1906	26,547	821
1907	39,238	424
1908	43,890	282
1909	47,167	215
1910	50,802	187
1911	48,876	184
1912	50,893	110
1913	56,654	76
1914	44,329	82
1915	34,785	51
1916	33,176	16
1917	32,589	14
1918	25,520	18
1919	24,204	31
1920	20,673	19
1921	14,389	15
1922	10,447	17
1923	10,976	19
1924	11,625	16
1925	12,180	27



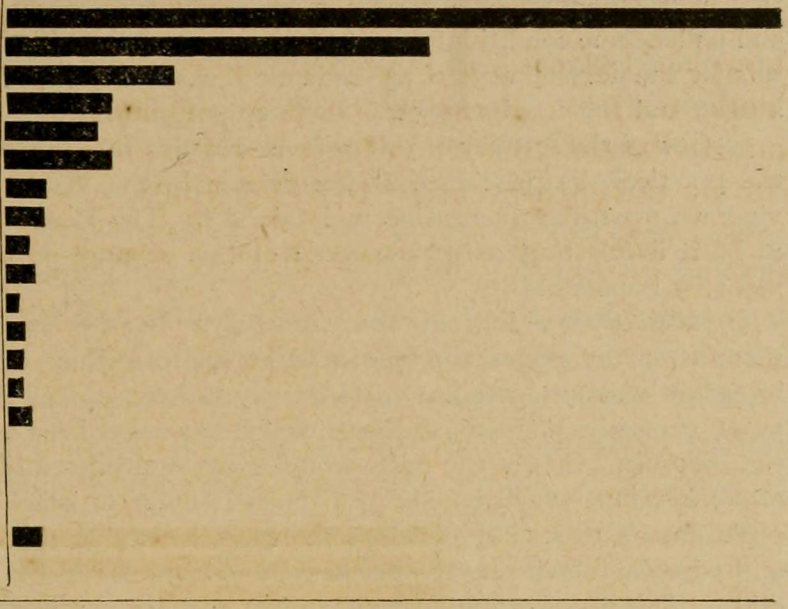
Excluding the 134 cases from Bruja Point, the admission rate from malaria was 24.66 for white employees and 13.14 for black employees. (See page 16.)

There were no deaths from malaria among employees during the year, 1925.

The death rates from malaria among employees from 1906 to 1925, are shown in Chart No. 8 at top of opposite page:

CHART NO. 8.

Year.	Average number employed.	Rate.
1906	26,547	7.45
1907	39,238	3.51
1908	43,890	1.37
1909	47,167	.85
1910	50,802	.81
1911	48,876	.84
1912	50,893	.31
1913	56,654	.30
1914	44,329	.14
1915	34,785	.23
1916	33,176	.06
1917	32,589	.09
1918	25,520	.08
1919	24,204	.08
1920	20,673	.15
1921	14,389	.00
1922	10,447	.00
1923	10,976	.00[1]
1924	11,625	.17
1925	12,180	.00



PRESENT STATUS OF THE MALARIA PROBLEM AND MOSQUITO CONTROL.

Mosquito situation.—There are about 135 species of mosquitos on the Isthmus, but most of them breed and spend their lives in the jungle, rarely, if ever, attacking man. Only a few species are of sanitary or economic importance and these, for the purpose of mosquito control, may conveniently be divided into three general classes.

(a) *Mosquitoes which transmit malaria*, viz., anopheles of a few species. On the Isthmus the principal offenders are *A. albimanus* and *A. tarsimaculata*. These two species breed in natural collections of water, pools, streams, ponds, etc., and under favorable conditions fly to and enter houses at distances as great as a mile or more from their place of origin. They bite at night or near dusk, rarely by day except in very deep shade.

(b) *Mosquitoes which transmit yellow fever and probably dengue fever*, viz., *Aedes aegypti*, formerly designated as *Stegomyia fasciata*. *A. aegypti* is essentially a domestic mosquito, laying its eggs in artificial collections of clean water provided by receptacles such as cisterns, jars, bottles, tin cans, sagging gutters, ant guards, vases, unused flush tanks, etc. These mosquitoes for the most part breed in the house or yard and fly very short distances. If a well-screened house contains many specimens of *A. aegypti* it is almost certain that breeding is taking place within the house itself. This species bites mostly by day, particularly in the afternoon, and is very annoying.

Continued efforts to maintain a low *A. aegypti* index are made by the Health Department in the towns of the Zone and in the cities of Panama and Colon. These efforts are not as energetic as would be the case if yellow fever were an imminent danger, but are sufficient to reduce the number of houses in which any breeding can

[1] In the two previous annual reports, this chart showed a death rate of .09 for 1923, representing the death of 1 employee. Upon recent investigation it is revealed that this was an error, the man in question having terminated his services more than two months before his death. After his discharge as an employee, he went into the interior, where he contracted his malaria and died.

be found to less than one per cent of the total, as was shown by recent surveys in both Panama and Colon. Where breeding occurred it was of trivial amount in vases or other small containers. It has been estimated by certain investigators that unless the number of houses in which breeding occurs rises to about 5 per cent, and under some conditions even to 10 per cent, there will not be sufficient transmitters for the development of an epidemic if cases of yellow fever are introduced into a town and neglected as regards sanitary precautions.

In view of the scarcity of yellow fever-carrying mosquitoes in the Isthmian towns, the practical disappearance of the disease in the Western Hemisphere, and the vigorous maritime quarantine maintained by The Panama Canal Health Department, it is felt that a recrudescence of this scourge on the Isthmus has become virtually impossible.

(c) *Mosquitoes which cause annoyance only.* In addition to those mentioned above, there are many genera and species of mosquitoes which cause annoyance by their bites but which are not known to convey disease, except that one species (possibly more) transmits filariasis, a disease which has never been a factor of importance on the Isthmus. One of the most troublesome mosquitoes in this group is the *Aedes taeniorhynchus*, which breeds to a limited extent in brackish swamps and in tidal pools among rocks but develops most prolifically in the deep cracks which form on hydraulic fills during the dry season and become water containers with the first rains. This insect can fly for many miles, perhaps as much as 30 or 40. The control of annoying mosquitoes is of some sanitary importance here, partly because of the actual irritation they may cause and partly with a view to the morale of the Isthmian public which now considers sanitation neglected whenever *any* mosquitoes appear. Until recently much annoyance has been caused in Balboa and Ancon during the first part of each wet season by *A. taeniorhynchus* mosquitoes which bred in enormous numbers on the San Juan fill, west of the Canal. By rearranging the schedule of the dredging division so that mud could be pumped onto the filled area just before the rains began, this nuisance was almost entirely abated in 1925 and again in 1926.

Fortunately it is not necessary to eliminate the last disease bearing mosquito, or the last human carrier of mosquito-borne parasites, in order to prevent or practically prevent the spread of mosquito-borne diseases. Out of each 100 anopheles mosquitoes, if malaria is relatively scarce, only a few will have a chance to bite a patient during the period in which his blood contains malarial parasites in the infective stage. Of those which do so bite, only a limited number will live the 12 days necessary for the malarial organism to reach its full development in the insect, and of these some may die before they have an opportunity to bite a susceptible person. The same principles apply with still greater force to yellow fever. Consequently, as regards the epidemic spread of disease, there are interrelated critical points in the number of mosquitoes susceptible to infection with the parasite in question, and in the number of human carriers of that parasite. Both factors must rise above those critical points if there is to be an epidemic. If the number of both susceptible mosquitoes and infected persons is below those critical points, then sporadic new cases of the disease will occur in decreasing numbers as one or both factors are still further lowered.

With the present practical elimination of anopheles mosquitoes in the sanitated towns, screening of doors and windows is less necessary than formerly and one actually sees few screened houses in the cities of Panama or Colon, except in the suburbs of the former city. It is not yet possible to say whether we could do away with screening on the Canal Zone without having a rise in the incidence of malaria. At any rate, screens afford many collateral comforts such as the exclusion of flies, moths, winged ants, scorpions, tarantulas, reptiles, etc.

Loose statements have sometimes been made to the effect that malaria has been eradicated from the Canal Zone. These statements are erroneous. To free the entire Canal Zone from malaria would require years of effort backed by millions of dollars. No attempt has ever been made to do this. As compared with yellow fever, malaria prevention offers a far more difficult and expensive problem to the sanitarian, for the following reasons: *First*, the anopheles mosquitoes concerned are rural breeders, developing in swamps, brooks, ponds, and puddles over very great areas, and often flying considerable distances, a mile or more, to obtain the blood meal necessary for the propagation of their species. *Second*, the indigenous population of the Isthmus, outside of the sanitated towns, is to a large extent chronically infected with latent malaria, thereby affording abundant opportunity for newly hatched mosquitoes to acquire the parasites when they bite such infected individuals. The policy adopted in 1922 of permitting farmers, mostly negroes, to settle on the vacant lands of the Zone has increased the opportunities for infection of mosquitoes. *Third*, those who contract malaria may remain infective indefinitely even when vigorously treated with quinine for lengthy periods, and they can not long be shut up in a screened room as is the rule with the yellow fever patient during his brief 3 days of infectivity. *Fourth*, one attack of malaria confers no immunity to subsequent attacks. *Fifth*, there is an insistent desire among many persons to leave the sanitated areas at night for picnics or other purposes and this desire has been stimulated during the last few years by the extension of good roads outside the towns.

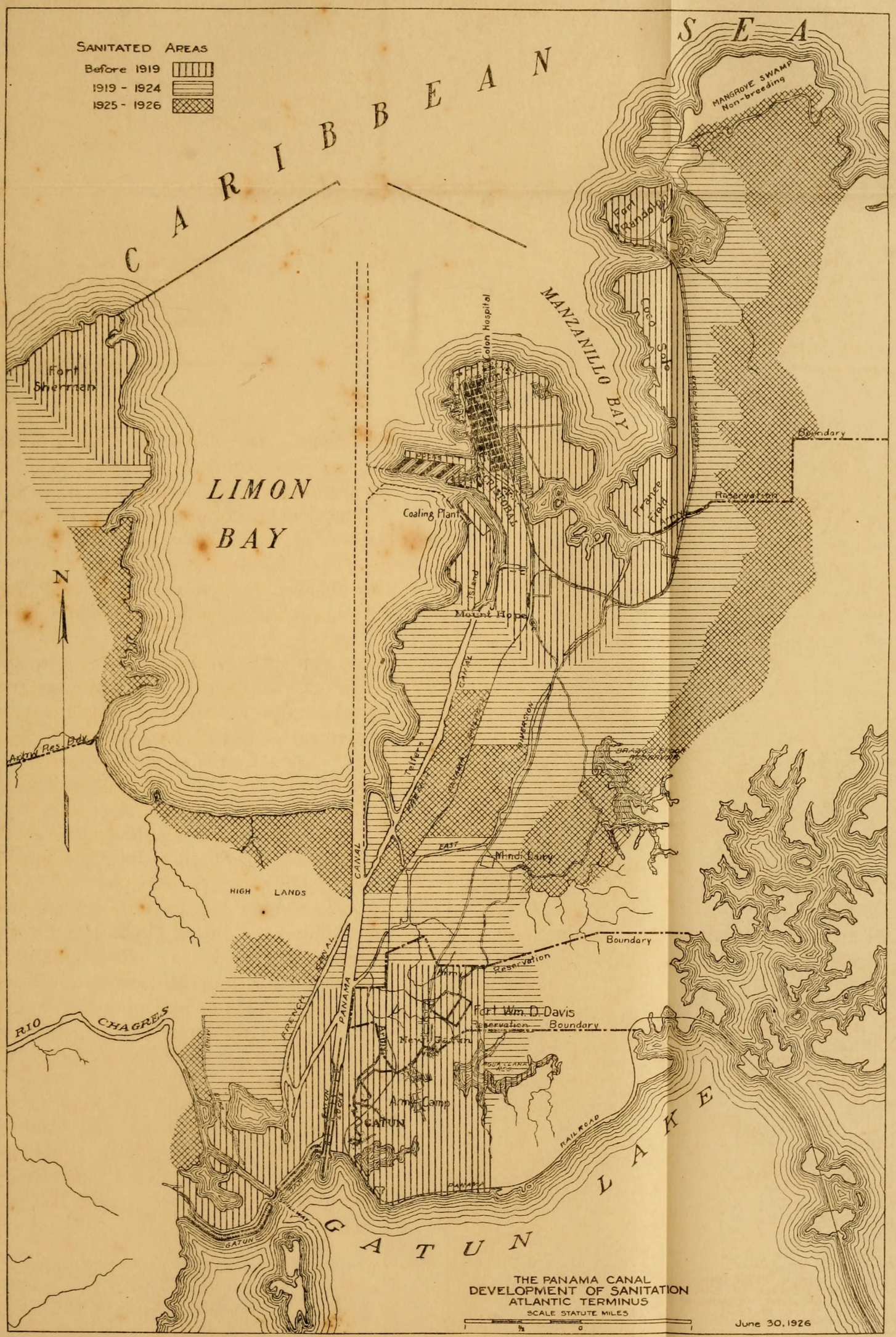
Just where to stop in the program of expanding and improving the areas in which mosquito breeding is controlled, just when the expense of further work will not be justified by the gain in malarial prevention or general comfort and by the reduction of upkeep costs—these questions remain unanswered. The work is still progressing, but the malaria rate among employees of the Canal is not now correspondingly decreasing, probably due to the fact that an indeterminate but considerable percentage of the cases which develop among those living in sani-

tated towns actually acquire their infection when outside the sanitated areas after sundown. The increasing number of automobiles and the rapid extension of hard-surfaced highways are bound to augment this danger each year. Military maneuvers and mapping expeditions are important factors in raising the rate in the Army, in spite of prophylactic doses of quinine. An incident taking place in 1925 is a good indication of what would happen if the sanitation of our towns should be neglected. A gang of workmen, averaging 226 in number, was installing large guns at Bruja Point, which is located about three miles beyond our sanitated areas. The white men lived in screened houses and the colored men, constituting most of the force, slept under mosquito nets and presumably took prophylactic doses of quinine. Yet in a period of five months 122 of these men suffered an attack of malaria. This area has since been drained by the Army authorities and few cases now occur. That the Isthmian malaria has not lost its pristine powers is shown by the fact that pernicious types, particularly the cerebral and algid forms, not infrequently occur and sometimes result fatally.

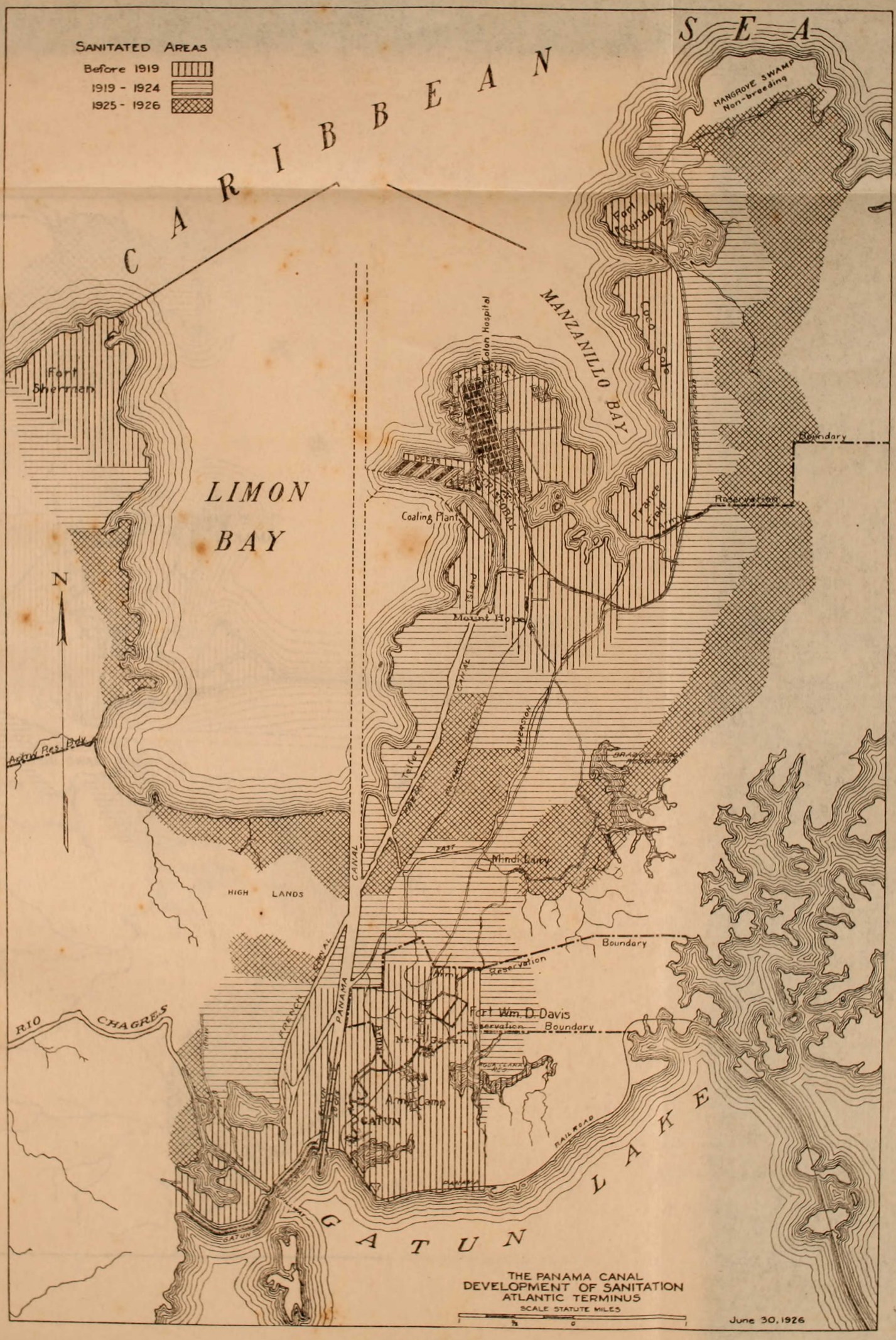
Recent new drainage work in and about Panama City.—It should be remembered that the cities of Panama and Colon, although not in the Canal Zone, were placed by treaty under the complete sanitary control of the Health Department of The Panama Canal. Their sanitation is paid for by The Panama Canal, except as regards street cleaning and garbage handling, for which the Republic of Panama pays approximately half the cost. Sanitary control in each of these cities is effected through the agency of a full-time health officer who is an American physician employed by and acting under the immediate jurisdiction of the Chief Health Officer of The Panama Canal.

Until recently the mosquito control measures carried out by the Health Department in and around the city of Panama had not been consistently applied for a distance greater than half a mile from the borders of town, indeed hardly that far from the outer parts of the new suburb of Bella Vista. Practically no permanent work had been done by the Health Department, even in the large vacant areas located within the built-up sections of the city, control being effected by unlined open earth ditches and by oiling.

In October, 1924, a new policy was adopted. (See Report for year 1924, p. 13). The area of control was promptly extended to a distance of at least a mile from the city borders, including in those borders the most easterly houses in Bella Vista. (See map No. 1.) Furthermore, immediate steps were taken to replace all trained streams and unlined


SANITATED AREAS
Before 1919
1919 - 1924
1925 - 1926
CARIBBEAN SEA
MANGROVE SWAMP
Non-breeding
Fort Randolph
Cuipo
Sale
MANZANILLO BAY
Colon Hospital
Fort Sherman
LIMON BAY
Coaling Plant
Mount Hope
Boundary
Reservation
France Field
Army
N
Arjuna Res. Poly
HIGH LANDS
CANAL
PANAMA
FRENCH
Mindi Larry
Boundary
Reservation
Fort Wm. D. Davis
Reservation
Boundary
RIO CHAGRES
New Gatun
Army Camp
GATUN
RAILROAD
GATUN LAKE
THE PANAMA CANAL
DEVELOPMENT OF SANITATION
ATLANTIC TERMINUS
SCALE STATUTE MILES
June 30, 1926

MAP No. 1.


SANITATED AREAS
Before 1919
1919 - 1924
1925 - 1926
CARIBBEAN SEA
MANGROVE SWAMP
Non-breeding
Fort Randolph
Coco Solo
MANZANILLO BAY
Colon Hospital
Fort Sherman
LIMON BAY
Coaling Plant
Mount Hope
Boundary
Reservation
Frame Field
N
Active Res. Poly
HIGH LANDS
Mindi Dairy
Fort Wm. D. Davis
Reservation
Boundary
RIO CHAGRES
Army Camp
GATUN
GATUN LAKE
RAILROAD
THE PANAMA CANAL
DEVELOPMENT OF SANITATION
ATLANTIC TERMINUS
SCALE STATUTE MILES
June 30, 1926

MAP No. 1.

open earth ditches by subsoil tile or by concrete bottomed open drains where the subsoil method was unsuitable owing to lack of grade or other circumstances. With the amount of funds which could be made available by the Health Department during the last two years it has been possible to push the program rapidly. By June 30, 1926, not only had mosquito control been entirely effected over the enlarged area, but all open earth ditches within the city, as well as most of those in the surrounding area, had been replaced by permanent drainage, and plans were developed for further extension, particularly eastward along the Sabanas road toward the Golf Club. These improvements in and about Panama have been accomplished by the installation of $12\frac{3}{4}$ miles of subsoil tile drainage, $2\frac{1}{2}$ miles of open concrete bottom drains, and $1\frac{1}{2}$ miles of new open earth ditch not yet tiled, the total cost being $35,987.[1] The first result of these changes is an increased degree of protection from anopheles mosquitoes—particularly in and about Calidonia, Bella Vista, and the Exposition Grounds. The second result will be a saving in upkeep sufficient to pay for these permanent improvements in a few years; or, if the same amount of money is expended annually, it can be largely devoted to further extension of permanent work rather than used up solely in current maintenance.

Recent new drainage work in the Canal Zone.—Permanent drainage work in the Canal Zone has been speeded up during the last year, particularly at the Pacific end in the area between Paraiso and Ancon. Large installations of subsoil tile or concrete bottomed drain have been made west of the Canal near the Pedro Miguel and Miraflores Locks, north of Paraiso, in and about Corozal, along the west side of the Corundu River, and on the hydraulic fill between Balboa Heights and Corozal. Most of this permanent work replaced temporary earth ditches which had been in existence a considerable time. During the last 2 years a total of 4 miles of tile and 2 miles of concrete bottomed drain has been placed, and several areas of considerable size have been filled, at a total cost of $18,982.86.[2] The high cost per mile, as compared with the cost of the work referred to in the preceding paragraph, is due to three factors: *First*, there was a much larger proportion of concrete bottomed open drain, this being far more expensive to install than subsoil tile; *second*, the work entailed more than the average amount of excavation; and, *third*, a large part of the sectional bottom was placed in very difficult swampy sites where it had to be underlaid by boards in order to maintain grade.

[1] This work was done during the period from Jan. 1, 1925, to June 30, 1926.
[2] This work was done during the period from July 1, 1924, to June 30, 1926.

As a result of the work done by the Health Department of The Panama Canal, supplemented by the work of the Army at Fort Clayton and Camp Corozal, the entire area from one mile northwest of Empire down through Culebra, Paraiso, Pedro Miguel, Red Tank, Fort Clayton, Corozal, Balboa, Ancon, Fort Amador, Panama, and Bella Vista to the Pacific Ocean has been sanitated, most of it by means of permanent drainage. This represents a protected area over 13 miles long and ranging in width between a mimimum of 1 mile at some points and a maximum of 6 miles at its ocean extremity. (See map No. 2.)

On the Atlantic side there has been equal recent activity in extending the areas of sanitation. Nineteen and a half miles of new earth ditch and $2\frac{1}{2}$ miles of subsoil tile drainage have been installed during the last two years.[1] The work has been made as permanent as possible, but owing to the character of a large part of the terrain—flat, swampy land only a few inches above sea level—it has been impracticable to install much subsoil tile or concrete bottomed drain except in and around Gatun. Seven years ago Gatun and Cristobal-Colon were each surrounded by sanitated zones extending less than 1 mile from the town limits, while an unsanitated region occupied the intervening 3 miles and bred enormous numbers of anopheles mosquitoes. In 1919 Fort Davis was completed on a swampy site located not far from Gatun. The malaria menace compelled the Army to undertake at once an antimosquito program for the protection of the garrison. Then the Health Department of the Canal initiated the plan of sanitating the intervening stretch between Fort Davis and Colon. This work is now nearly completed. (June 30, 1926.) The drainage program carried out to the east of Manzanillo Bay by the Health Department and by the Army, primarily for the protection of Fort Randolph, France Field, and Coco Solo Naval Base, has greatly improved the mosquito situation in Colon. At present the area under control to the south and east of Limon Bay is about 11 miles in length and varies in width from 2 to 4 miles. Extensive permanent and semipermanent drainage works completed by the Army on the Fort Sherman reservation, to the west of Limon Bay, have added to the protection of Colon on that flank. (See map No. 1.)

In many instances the new work done during the last two years represents not an actual increase in the controlled area, but a substitution of permanent installation for temporary earth ditches. To appreciate what has been accomplished on the Isthmus by permanent drainage and by filling is impossible unless one was familiar with the areas before these improvements were undertaken. Great mosquito-breeding

[1] This work was done during the period from July 1, 1924, to June 30, 1926.

areas have been eliminated for all time and have become lawns, gardens, villages, or harmless grass and jungle land.

Type and cost of recent permanent work.—In all of the recent subsoil installation special effort has been made to reduce the chances of obstruction of the tiles by silt or roots. The plan for contemplated work is first carefully laid out on profile paper with the aid of a level so as to obtain the best available grade for the entire system, thereby securing maximum scouring action within the tile for eliminating silt. Wherever grade permits, tile is put at such a depth that its top is at least 24 inches below the soil surface and the trench to a depth of 24 inches is filled with broken rock. Placing the tile at such a distance below the surface reduces the likelihood of grass roots obstructing the lumen and incidentally lowers the ground water level, thereby favoring rapid soil drying after rains. Except in rare instances all of the tile now used has an interior diameter of 6 inches and is made of concrete, in sections 1 foot long.

For several years all open concrete bottomed drains have been constructed by the sectional method, using precast sections $2\frac{1}{2}$ feet long, of semicylindrical shape, with a channel 14 inches across and with a bell at one end to receive the plain end of the next section. These also are laid strictly to a predetermined grade.

Both tile and sectional bottom are manufactured by the Health Department in its own plant at a cost which has now been reduced to approximately 4 cents per tile and 50 cents per section. Broken rock for covering tile drains costs $1.25 per cubic yard at the crushing plant. In many instances rock is obtained near the job and broken up with sledges by our own gangs at less cost. Labor is paid 21 cents per hour. The average cost of 112,251 feet of completed permanent work recently installed, about one-fifth of which was concrete bottomed and four-fifths subsoil tile, has been 51 cents per linear foot. As a rule, tile is much less expensive to install than concrete bottom. Naturally the depth of excavation necessary and the length of haul for material decidedly affect costs so that no definite average can be given which is applicable to all projects.

Sums spent for antimosquito sanitation by the Health Department of The Panama Canal.—In recent times the Health Department of The Panama Canal has had available annually about $1,400,000 to spend on its activities, including hospitalization, outside medical service, cemeteries, and charities for the Canal Zone, and sanitation and maritime quarantine for the Canal Zone and for the cities of Panama and Colon. Of this sum approximately the following amounts

have been spent each fiscal year for the strictly antimosquito work of the Health Department:[1]

1919	$140,000	1923	$80,000
1920	140,000	1924	60,000
1921	105,000	1925	70,000
1922	80,000	1926	108,000

In addition to the sanitary program carried out by the Health Department of The Panama Canal, the United States Army authorities do a large amount of antimosquito work at a cost of approximately $50,000 annually. This sum is entirely distinct from the funds of the Health Department of The Panama Canal and is expended under the direction of the Department Surgeon for the purpose of furnishing protection to the military stations, many of which were located subsequently to the Canal towns and beyond the areas sanitated by The Panama Canal. The money is mainly devoted to work on the military reservations, though some of it is spent on adjacent territory when necessary for safeguarding the garrisons. The operations of the Army and of the Health Department are coordinated by mutual agreement so that there is no conflict and the programs are linked together for the better development of general protection. A large part of the original drainage installations put in by the Army authorities was of a permanent character. Their sanitary forces are now engaged in replacing some of the earlier earth ditches with concrete bottomed drains.

Advantages of permanent work.—The increase in Health Department antimosquito expenditures during the last 2 years has resulted mainly from the intensive program of *permanent* drainage work, and as an investment these expenditures will pay dividends either in decreased future maintenance charges or in control of a much larger area at the former figure. With reference to the permanent work recently installed within and about Panama City, it has been estimated that the savings from reduced cost of upkeep will easily pay for the improvements, together with interest at 3 per cent on the original cost, in about 5 years; in addition, the area and degree of control during these 5 years will be much greater than they formerly were.

Unlined earth ditches require to be frequently cleared of silt and rapidly growing vegetation. This is a difficult and expensive process. Even when clean and kept to grade, unless the grade is steep, they frequently hold some water which, at time of infrequent rains, is not flushed out and often furnishes breeding places unless regularly oiled. Subsoil tile requires no upkeep except an inspection once or twice a year, which consists of merely walking along the line to see that it is

[1] This has nothing to do with house screening.

not obstructed anywhere. If the tile is obstructed, water will be apparent on the surface. Open concrete bottomed drain, like the unlined earth ditch, requires to be cleaned of debris and vegetation growing on its banks, but this procedure can be carried out very quickly, and to a large extent is accomplished by merely dragging along the channel an oil-soaked mop made of old rope. This "whale," as it is called, removes debris and at the same time leaves a film of oil over any remaining water. After the installation of subsoil or concrete bottomed drain, the probability of complete control in a given area is materially increased.

GENERAL REMARKS ON HEALTH CONDITIONS ON THE ISTHMUS.

In considering general health conditions and mortality rates on the Isthmus, it should be borne in mind that in Panama City 78 per cent of the population consists of negroes and mestizos, in Colon 85 per cent, and in the Zone 50 per cent.[1] The negroes are in large part, West Indians who were brought here during Canal construction days, and their descendents. The negro population is greatly overcrowded in Panama and Colon. Charts 4, 5, and 6 (pages 9, 10, and 11), show the death rates in the cities of Panama and Colon, Republic of Panama, and in the Panama Canal Zone during the years in which these areas have been under the sanitary control of The Panama Canal. The housing conditions for the negroes are better in Colon than in Panama, which fact probably accounts in part for the more favorable showing in that city.

The death rate in Panama City has been reduced from over 65 per 1,000 in 1905 (the first year of American sanitary control) to less than 20 per 1,000 for each of the last 3 years. During the same period the death rate of the city of Colon has fallen from 50, or over, per 1,000 to 12.56 in 1923, 15.18 in 1924, and 12.82 in 1925. The Canal Zone rate has dropped from a maximum of nearly 50 per 1,000 in 1906 to an average below 8.5 per 1,000 for the past 9 years. It is interesting to compare the above figures with the death rates in some of our American cities, particularly the more southerly ones, which are shown in table at top of next page.

[1] The population of the Zone for 1925 includes approximately 27 per cent American (white) employees and their families living in sanitated areas, 39 per cent negro employees and their families living in sanitated areas, 22 per cent soldiers (white) living in sanitated areas, 5 per cent employees (mostly negroes) living in unsanitated areas, and 7 per cent "Zone settlers" and their families (mostly negroes) engaged in farming in unsanitated areas. This latter class has been in existence only since 1922 and may be expected to act unfavorably on the morbidity and mortality rates. Of 3,123 white employees in 1925, about 450 were females. Most of the white male employees are married and have their wives and children with them on the Zone.

CRUDE DEATH RATES IN CERTAIN AMERICAN CITIES, PER 1,000 POPULATION.

	1922.	1923.		1922.	1923.
Atlanta	16.3	19.2	Baltimore	13.5	14.2
Birmingham	13.4	15.6	Dallas	12.6	11.8
Louisville	14.1	16.2	New Orleans	17.2	18.2
Richmond	14.1	15.6	Washington	14.4	14.6
Albany	13.2	13.4	Boston	13.3	13.5
Buffalo	13.5	13.5	Chicago	12.0	12.6
Cincinnati	13.7	14.7	Fall River	16.2	13.9
Indianapolis	12.8	14.1	Kansas City	14.6	14.2
Minneapolis	9.8	10.0	New York	13.2	12.9
Philadelphia	13.3	14.1	Pittsburg	14.2	15.4
San Antonio	16.1	15.7	St. Louis	12.5	13.6
Wilmington	12.5	13.4	San Francisco	14.1	13.6

The death rate from disease among American (white) employees of The Panama Canal is shown on page 51. In evaluating these figures, one should bear in mind two factors: *First*, the employees must pass a fairly rigid physical examination before coming to the Isthmus. *Second*, many Americans suffering from chronic diseases, or incapacitated by reason of old age, return to the United States to die. In spite of these facts, the four diseases causing the highest number of deaths in 1923, 1924, and 1925 among American employees were all chronic maladies and were, in their order of frequency, as follows: Heart disease, cancer, tuberculosis, and apoplexy. Chart No. 8 shows that as a cause of death malaria has become an insignificant factor. There have been no deaths from this disease among employees of The Panama Canal, whether white or black, during the last five years, except 2 in 1924.

The diagnosis of typhoid fever and of malaria in the Canal Zone or in the cities of Panama and Colon is rarely based on clinical evidence alone. In the past, however, in many tropical countries there has frequently been confusion between these two diseases. For this reason the typhoid fever statistics of the Health Department are of special interest. It will be observed that typhoid fever has come to be a trivial factor in the morbidity and mortality figures, as is shown below:

TYPHOID FEVER IN PANAMA CITY, COLON, AND CANAL ZONE.[1]

Year.	Probable origin of infection.							
	Panama City.		Colon.		Canal Zone.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1907	24	(2)	30	(2)	599	(2)	653	115
1908	22	(2)	14	(2)	245	(2)	281	34
1909	10	(2)	16	(2)	221	(2)	247	18
1910	12	(2)	24	(2)	93	(2)	129	25
1911	8	(2)	13	(2)	77	(2)	98	15
1912	10	(2)	3	(2)	48	(2)	61	9
1913	16	(2)	4	(2)	50	(2)	70	12
1914	26	8	6	2	23	4	55	14
1915	15	5	5	2	5	.....	25	7
1916	23	3	5	1	19	4	47	8
1917	10	2	6	.....	9	2	25	4
1918	9	.....	5	.....	6	.....	20	.....
1919	8	2	3	1	10	1	21	4
1920	10	.....	4	3	1	1	15	4
1921	8	2	7	1	5	2	20	5
1922	6	1	7	2	5	2	18	5
1923	3	.....	8	.....	1	1	12	1
1924	6	1	1	1	3	.....	10	2
1925	5	.....	2	1	4	.....	11	1

[1] Population figures will be found in Charts 4, 5, and 6.
[2] Probable origin of infection of cases that died up to 1913 not readily available.

The death rates of infants per 1,000 live births in the cities of Colon and Panama and in the Canal Zone for the past 7 years have been as follows:

INFANT MORTALITY.

	1919.	1920.	1921.	1922.	1923.	1924.	1925.
Colon	155.29	142.21	139.28	139.66	115.66	114.49	117.04
Panama	154.47	155.30	173.95	147.23	141.95	138.06	117.12
Canal Zone:							
White	37.23	34.36	33.22	41.32	43.69	47.06	36.27
Black	154.00	130.00	134.73	120.27	88.31	123.01	96.93
Total (white and black)	113.67	95.09	96.65	92.62	72.76	96.54	77.92

CHILD WELFARE WORK.

Health centers for children and infants were maintained during the year at Ancon, Balboa, and Pedro Miguel. Under the direction of the visiting nurse, many of the mothers of the Pacific side have taken great interest in these centers. Six hundred and seventy-five visits have been made by infants or children to these health centers and the visiting nurse made 1,034 calls at the homes.

The Cristobal Woman's Club Free Clinic in the City of Colon, is operated jointly by the Cristobal Woman's Club and the Health Department. The Health Officer of Colon is the director and the Health Department supplies the nurse in charge. The clinic has confined its work to infant welfare, prenatal, dental, and eye, ear, nose, and throat work. Milk is prepared and feedings for one day are provided for approximately 25 babies daily. The following table gives the number of cases treated during the year:

Babies (includes all cases under 5)	9,314
Prenatal	1,619
Dental	227
Eye, ear, nose, and throat	2,346

The usual annual examination of all children in the schools of the Zone was made by Panama Canal physicians, assisted by trained nurses. In the white schools 1,983 children were examined, among whom the following defects were found:

Decayed teeth	342	Othopedic defects	15
Defective tonsils	386	Pulmonary diseases	11
Adenoids	396	Hernia	5
Nasal defects	8	Skin disease	4
Defective vision	180	Nervous disorders	6
Defective hearing	22	Defects of genitalia	5
Cardiac disease	24		

The state of nutrition of each child was recorded and the use of the toothbrush noted. Parents were notified in every case of any defects

found and efforts were made to have remediable defects corrected.

The visiting nurse made weekly inspections of the schools of the Pacific end of the Zone. She also assisted in the examination of school children of the City of Panama and in the work of the Baby Clinic of the Panama Red Cross.

VETERINARY INSPECTIONS.

The veterinary force of the Health Department carries out the quarantine inspection of animals entering the Canal Zone or the cities of Panama and Colon; the inspection of animals transported by rail across the Isthmus; the ante and post-mortem inspection of animals slaughtered for food; and the inspection of dairies, dairy herds, and milk handling.

Quarantine work in 1925 included the examination of 25,363 cattle and 43 horses and mules brought into the Canal Zone, or the cities of Panama and Colon, from the interior of the Republic of Panama, and from other countries. There were 4,102 cattle and 6,322 hogs inspected for rail shipment across the Isthmus. At the Colon, Panama, and Mount Hope abattoirs ante and post-mortem examinations were made on 25,995 cattle, of which 30 carcasses were condemned. Fifteen of the carcasses were condemned on account of extensive bruises, and septic wounds, 7 on account of septicemia, 3 on account of pneumonia, 2 on account of anthrax, 1 on account of actinomycosis, and 2 because of their dying condition upon arrival.

Regular inspections of dairies were conducted to insure cleanliness and acceptable conditions. In addition to this, samples of milk were taken at frequent intervals for bacteriological examination, as a check on careless production. The entire milk supply of the Zone and of the cities of Panama and Colon is pasteurized before being delivered to the consumers.

Of the 23,596 hogs slaughtered, 788 were condemned on account of cycticercosis, 103 on account of cholera, 15 on account of pneumonia, 25 on account of exhaustion, 2 on account of pyemia, 1 on account of pyrexia, and 1 on account of emaciation.

During the year the Health Department supervised the disinfection of 19,237 hides which were to be shipped to the United States.

DIVISION OF QUARANTINE.

Surg. C. P. KNIGHT, U. S. P. H. S., Chief Quarantine Officer.

The only quarantine embargo continued throughout the year 1925 was that imposed in December, 1924, for foot-and-mouth disease

against all countries of South America, except Colombia, Venezuela, and Dutch and British Guiana. The quarantine on account of yellow fever, which was placed against the ports of El Salvador and the Stamm Creek District of British Honduras in 1924, was lifted during the year 1925.

It is worthy of note that out of a total of 5,549 vessels inspected, only three were detained in quarantine, one for 1½ days to complete the prescribed six days after leaving a yellow fever port, and two U. S. Navy ships for one day and three days, respectively, because of the presence of acute meningitis aboard.

Vessels given radio pratique	179
Vessels inspected and passed	3,898
Vessels passed on sworn declarations	1,869
Vessels detained in quarantine	3
Total	5,949
Vessels fumigated	126
Supplementary inspection of vessels	5,006
Persons detained in quarantine station	90
Persons detained on board vessels in quarantine	1,521
Crew inspected and passed	224,655
Crew passed on sworn declarations	93,316
Crew granted pratique by radio	35,165
Passengers inspected and passed	93,831
Passengers granted pratique by radio	3,132
Passengers passed on sworn declaration	25,818
Supplementary inspection of persons on detained vessels	220
Persons vaccinated	1,097

Immigration operations continued under the division of quarantine as heretofore. Eight hundred and fifty-two persons were deported and 1310 were detained at the quarantine station on account of the immigration laws.

ANCON HOSPITAL.

(Capacity, 1,200 patients.)

Lieut. Col. W. L. PYLES, Medical Corps, U. S. Army, Superintendent.

Administration.—The practice of holding periodic meetings of the entire staff, and monthly meetings of the head nurses, has been continued with beneficial results in efficiency of operation and coordination of effort. The Clinic and Journal Club, established last year, is a popular and valuable feature of our hospital work.

Professional services.—During the year 1,443 major operations and 5,186 minor operations, including intravenous injections of arsphenamine, were performed; 3,960 cases visited the out-patient surgical department; 330 pregnant women were delivered. There were 3,171 cases treated in the medical out-patient department; 554 adults and 433 children were vaccinated. There were 10,989 visits to the eye, ear, nose, and throat out-patient department; 2,147 operations were performed and 1,156 refractions done. There were 3,212 cases handled in the radiographic clinic, for which 7,532 ordinary films of various sizes and 3,223 dental films were used. During the year 387 out-patients and 406 hospital patients were treated in the radio-therapy clinic, which is charged with the administration of radium therapy, X-ray therapy and hydro-therapy; 745 radium therapy treatments, 1,930 X-ray therapy treatments and 7,070 physio-therapy treatments were given. A total of 40,338 patients were treated by the physicians of Ancon dispensary which is attached to Ancon Hospital for administrative purposes.

Nonresident patients.—Six hundred and eleven patients residing outside of the Canal Zone and the cities of Colon or Panama, were treated in Ancon Hospital during the year.

Operating expenses.—The following table gives cost of operating Ancon Hospital (exclusive of dispensary) for the past three calendar years:

	1923.	1924.	1925.
Operating expenses[1]	$520,551.97	$558,593.46	$539,610.43
Revenues	309,572.03	342,461.71	349,450.93
Net cost	210,979.94	216,133.75	190,159.50
Days relief furnished	109,599	129,525	134,429
Gross cost per patient day	4.75	4.31	4 01
Cost of subsistence supplies per patient day	.34	.40	.44

[1] Does not include the salaries paid by the War Department to medical officers of the Army detailed for duty with The Panama Canal, which amounted to approximately $52,300 in 1923, $58,900 in 1924 and $78,600 in 1925.

COROZAL HOSPITAL.

(Capacity 450 patients.)

Capt. G. E. HESNER, Medical Corps, U. S. Army, Superintendent.

Purpose.—This institution cares for the insane of the Canal Zone and of the Republic of Panama, being reimbursed for the latter class

of patients by the Republic at the fixed rate of $0.75 per day. It also cares for Canal Zone employees disabled by reason of injuries or chronic disease and who desire to enter the institution.

Repairs and alterations.—The laying of a new pipe line from a spring on the hillside was completed and water is now being supplied from this service for the refrigerating machines and for washing down the piggery and barn. This results in considerable reduction of water bills, Partititions were torn down in Ward "C," eliminating the small individual rooms which were poorly ventilated and converting the upper floor into a dormitory with full size windows, thereby increasing the bed capacity and greatly improving conditions generally.

Plans have been completed for the erection of a modern ward of concrete construction accommodating 104 female patients. This building is so designed that it may be converted into a hospital accommodating both male and female patients in the event that removal of the Panamanian patients reduces the population of the institution. Work will begin in May, 1926.

Grounds.—The mangosteen trees which were brought during the previous year from Jamaica are growing sturdily; also the cinnamon and nutmeg trees. A row of imported oaks (*Quercus fenestrata*) was planted along the roadway to the cemetery

Insane patients.—The census on December 31, 1925, was 389 as compared with 375 on the same day of the previous year. The number admitted was 153. There were 110 discharges and 23 deaths. No suicide or death from violence occurred. Of the total released, 31 (28 per cent) were recovered, 52 (47 per cent) were improved, and 27 (25 per cent) were unimproved. There were 14 patients transferred to Ancon Hospital for medical or surgical treatment during the year; 8 of these were returned to Corozal, 4 died, 1 was discharged, and 1 was still in Ancon Hospital at the end of the year. Of the total admissions, 77 were cases paid for by the Government of Panama, and the remainder were Canal Zone charity or private pay cases. Of the 110 discharged, 41 were deported.

Intensive specific treatment was given to patients suffering from syphilitic psychoses, about 20 per cent of the total population. Four hundred and seventeen doses of arsphenamin were administered intravenously, and 63 lumbar punctures were performed.

During the year, work has been continued in the treatment of paretic neurosyphilis cases by the induction of malaria. Twelve patients were inoculated with tertian parasites according to the Wagner-Jauregg method, allowed to have from 10 to 12 paroxysms, and then treated with quinine. The results were disappointing; only two cases

showed improvement mentally and physically, and very little change was noted serologically. All of the patients treated by this method were well-advanced paretics when admitted to this hospital. Prior to inoculation all had received an intensive course of antisyphilitic treatment, some having received as many as 25 doses of neosalvarsan.

Eight cases of epilepsy were recently started on the ketogenic diet treatment. One obstacle encountered in the treatment of epileptics in the tropics is their disinclination to eat a high fat diet.

Gratifying results were noted with the use of brewer's yeast as a daily article of diet in the treatment of patients suffering with pellagra.

Other patients.—There were on December 31, 30 black and 3 white chronic medial or surgical cases (not insane), as compared with 29 black and 3 white of this class at the beginning of the year. Nine were admitted, 5 died, 1 was discharged and 2 were repatriated. Those capable of performing work are encouraged to do so.

There were 30 cripples (not insane) in the institution on December 31, the same as at the beginning of the year. Two were admitted during the year, 1 was discharged, and 1 was transferred to the chronic ward. All but 5 were employed in some capacity by the institution, their services being utilized in the garden, guinea-pig warren, dairy, piggery, or cemetery, on the motor truck or teams, and in the steam plant. The five who are not employed by the hospital are each assigned a plot of land to cultivate individually and are paid for what they produce. Under this plan they are able to earn more than they would at a fixed wage and the method encourages industry, giving them a greater incentive to apply themselves to their task; their average earnings per month amounted to $51.24, and subsistence was furnished them without charge by the hospital.

Recreation.—Weekly picture shows and concerts have been continued throughout the year. During the dry season, picnics were held on Saturdays in a grove back of the hospital, where lunch was served, and baseball, handball, and other sports engaged in.

Occupational department.—The total receipts from the occupational ward amounted to $5,919.43, of which $4,295.96 was from the sale of brooms. All of the brooms are made by the chronic patients (not insane). Money derived from occupational work is utilized for purchasing material required to continue activities in this department and for providing workers with tobacco, candy, or other luxuries. The value of the produce taken from the patients' garden for hospital consumption amounted to $5,380.

Dairy and farm department.—Approximately 50 acres have been added to the hospital pastures through changes in fence lines. A trail

has been cut along the boundaries, and the pastures cleared of brush. It is planned to have the entire hospital reservation enclosed within a permanent fence during the coming year.

In the dairy barns 100 individual concrete mangers were constructed. One hundred individual automatic drinking cups for use of cattle were received, of which 75 have been installed. During the latter part of the year 13 Costa Rican cows were purchased and added to the herd to replace those butchered because of advanced age or nonproductiveness. The herd now consists of 41 Jersey cows and 18 calves; 20 Holstein (good grade) cows and 10 calves; and 2 bulls. There were 45,375 quarts of milk produced and milk sales during the year amounted to $14,582.35. The receipts for farm produce aggregated $4,285.54, and for manure $1,003.50. There were 269 pigs and 50 hogs remaining on December 31. The piggery continues to be an important source of revenue, and the gross income from this division of the farm for the year amounted to $7,054.02.

COLON HOSPITAL.

(Capacity 80 patients.)

Maj. JOHN WALLACE, Medical Corps, U. S. Army, Superintendent.

Purpose.—Colon Hospital is operated largely as an emergency hospital and dispensary for the benefit of the Atlantic side of the Isthmus.

Professional work.—During the year, 199 major and 97 minor operations were performed. There were 625 administrations of arsphenamine. Three hundred and four pregnant women were delivered. The dispensary physicians made 267 house or ship calls and 41,605 patients visited the out-patient clinic. The eye, ear, nose, and throat clinic was operated in conjunction with the regular white clinic, there being no physician for assignment to this special clinic exclusively. There were 221 refractions and 119 operations performed. The X-ray clinic was in operation only about 4 months during the year, due to the worn-out condition of the equipment. A new portable bedside unit has been purchased and is due to arrive in the near future.

Repairs and replacements.—A new obstetrical delivery room was constructed for colored patients during the year. Practically all of the hospital furniture and equipment has been repaired and painted. A new set of dishes and adjustable bedside stands were purchased for the white female ward. Routine painting and repairs to woodwork have been done as required.

PALO SECO LEPER COLONY.

(Capacity 100 beds.)

Mr. FRED D. TUCKER, Superintendent.
Dr. PHILIP HORWITZ, Attending Physician.

The patient population reached a maximum of 100 at one time during the year 1925. There were 94 patients at the beginning of the year; 12 new cases were admitted, 1 was discharged, and 8 died, leaving a total of 97 at the close of the year. The discharged patient, a negress 26 years of age, born in British Guiana, was returned to the land of her nativity. She had been a patient in the Colony for 8 years and was apparently cured at the time of her departure.

The new well, dug in 1924, has proven capable of supplying the Colony with pure water throughout the year and has relieved a serious deficiency. The stratum of fractured basalt underlying Palo Seco is not water-bearing and in previous years efforts to obtain a deep supply has failed. The new well was dug 20 feet deep in the outcropping of seepage of a hillside and has supplied what water was actually needed even through the past unusually dry season.

A new infirmary was built this year, at a cost of approximately $10,000. It is of concrete and frame construction and contains two wards accommodating 12 bed patients, a commodious operating room, and a drug room and dispensary. The basement floor will later be utilized for offices, commissary, and storerooms.

The old infirmary building has been remodeled into quarters for 12 patients. When the new offices and commissary are completed, the old offices and commissary will also be remodeled as patients' quarters. By these increases in space it will be possible to relieve the congestion which now obtains and, to isolate from positive cases the clinically negative patients who are awaiting parole.

BOARD OF HEALTH LABORATORY.

(Operated in connection with Ancon Hospital.)

Dr. L. B. BATES, Chief of Laboratory.

Bacillus typhosus.—Recovered in blood culture from 9 individuals; 6 were from shipboard, and 3 from Panama City. *B. paratyphosus A*, and *B. paratyphosus B*, were not recovered at any time during the year from blood, stool, or urine.

Typhoid carriers.—On December 31, 1924, two typhoid carriers were under sanitary surveillance, H. B. and G. H., both of Panama City. Stool specimens from H. B. were examined monthly and from G. H. up to September when he left the city. All specimens examined were positive for *B. typhosus*. No new carriers were discovered during the year.

Tonsil and adenoid examinations.—In August of this year a 6-year study of all tonsils and adenoids removed at operation was completed. Special attention has been given to the incidence of tuberculosis. The total number of specimens examined in this period was 3,685 of which 2.12 per cent showed tuberculous lesions. The greatest incidence was in colored children of 3 to 6 years of age and 80 per cent of all positives were from colored children under 14 years. In the white cases practically all positives were between 15 and 34 years of age. Two-thirds of all specimens from cases suffering with phlyctenular keratoconjunctivitis were tuberculous. Cervical adenitis was the next most important associated lesion.

Fatal cases of snake bite poisoning.—Two patients suffering from snake bite died in Ancon Hospital, one on October 31, 1925, and one on November 25, 1925. From the available records it appears that these two are the only fatal cases of snake bite on record in Canal Zone Hospitals. An autopsy was performed in each case. Below is given a short synopsis of each case.

Autopsy 7320.—G. B., male, black, 40 years of age, residence Frijoles, was bitten over the upper third of right tibia and over internal malleolus of right ankle on October 29th about 7 a. m., when on the trail on his way to work. He was admitted to Ancon Hospital unconscious October 31st at 11.05 a. m. There was a history of hemorrhage from mouth and nose immediately after receiving the bite. He died two and a half hours after admission. At autopsy, in addition to the wounds from the fangs, there was found extensive hemorrhage in subcutaneous tissues and fascia of right leg and ankle, extensive extravasation of blood in right retroperitoneal region, hemorrhage in and about the right kidney and ureter, hemorrhages in the intestinal wall, cerebral and meningeal hemorrhages and blood in the middle ears and mastoid antra.

Autopsy 7343.—W. R., male, black, 55 years of age, residence Frijoles, was bitten on the dorsal surface of the left foot by a small snake, on November 23d about 8 a. m. An incision made at the site of the bite bled persistently. He was admitted to Ancon Hospital, November 24th at 3 p. m. He complained of pain in the left foot and said that he had been spitting up blood. The wound was still oozing blood. He died November 25th at 5.45 a. m. At autopsy no gross lesions of importance were found other than, moderate arteriosclerosis. Histological sections of the basal ganglia, medulla, pons and cord all showed marked degenerative changes in the ganglion cells.

The snake was killed in each case. However, efforts to get the snakes for purposes of identification met with failure. In the first instance the snake was thrown into Gatun Lake because of a local superstition that if a snake that has bitten a person is killed and thrown into the water

the bite will prove harmless; in the second instance the patient left the snake in the yard while he went into a hut to dress his wounds and when he came out he found that the chickens in the yard had eaten the snake.

Mariahuana.—In conjunction with other branches of the Health Department, the Police Department and the Plant Introduction Gardens at Summit, an inquiry was made as to the identity and local use of the plant commonly known on the Isthmus as "Mariahuana." The plant was grown from seeds at Summit and later identified as *Cannabis sativa L.* by Paul C. Standley, Associate Curator of the Smithsonian Institution. He stated that the terms *Cannabis indica* and *Cannabis americana* are synonyms of *Cannabis sativa.* The plant grows wild on the Canal Zone and in the Republic of Panama and is found quite widely distributed. Its use for smoking purposes seems to be restricted almost entirely to soldiers. It was not possible to form any approximate estimate as to what extent it is used by them. Smoking experiments were carried out with the leaves and tops of both the wild and cultivated mariahuana plants. The ordinary pharmacological effects of the drug were obtained to a moderate degree but these were not accompanied with any tendency to mania, violence, or disorderliness. The evidence tended to indicate that the drug as used here is not habit forming in the generally accepted sense of that term.

Ethyl Esters from Chaulmoogra Oil.—During the past year the preparation of the ethyl esters of the fatty acids of chaulmoogra oil has been continued as in previous years. Attention has been directed to the problem of maintaining the content of free fatty acids in the finished product at the lowest possible point. Esters have been prepared with very low free acidity, and such esters have been given intravenously with much less disagreeable effects than usually follow the administration of esters with a relatively high content of fatty acids. The study of the esters and their action is being continued along the lines indicated by this observation.

Reports.—During the year approximately 40,000 reports have been rendered. This does not include duplicates.

BACTERIOLOGICAL EXAMINATIONS.

Blood cultures	267
Positive for *B. typhosus*	9
Positive for *Pneumococcus Type II*	1
Positive for *Pneumococcus Type IV*	2
Positive for *Streptococcus viridans*	6
Positive for *Streptococcus, non-hemolytic*	1
Positive for *B. coli*	2
Positive for *B. mucosus capsulatus*	5
Positive for *Staphylococcus aureus*	4
Positive for *Staphylococcus albus*	13

BACTERIOLOGICAL EXAMINATIONS.—Continued.

Stools cultured for typhoid-dysentery group		2,186
Positive for *B. typhosus*	17	
Positive for *B. typhosus* (from 2 carriers)	16	
Positive for *B. dysenteriae, Mannite Fermenter, Group II*	33	
Positive for *B. dysenteriae, Mannite Fermenter, Group III*	7	
Positive for *B. dysenteriae, unclassified*	1	
Urines cultured for typhoid group		1,536
Positive for *B. typhosis*	0	
Urines cultured for organisms other than typhoid group		364
Positive for *B. coli*	123	
Positive for *Staphylococcus aureus*	3	
Positive for *Staphylococcus albus*	93	
Positive for *Streptococcus, nonhemolytic*	1	
Positive for *B. mucosus capsulatus*	1	
Throat cultures for *B. diphtheriae*		1,150
Positive for *B. diphtheriae*	96	
Nasal cultures for *B. diphtheriae*		185
Positive for *B. diphtheriae*	21	
Throat cultures of *B. diphtheriae* tested for virulence		2
Nasal cultures of *B. diphtheriae* tested for virulence		2
Throat cultures for organisms other than *B. diphtheriae*		25
Spinal fluid cultures		56
Positive for *B. influenzae*	1	
Positive for *Streptococcus*	1	
Positive for *Pneumococcus Type II*	2	
Positive for *Pneumococcus Type IV*	1	
Eye cultures		11
Ear cultures		2
Mastoid cultures		13
Nasopharyngeal cultures		123
Sputum cultures		61
Pleural fluid cultures		36
Ascitic fluid cultures		1
Bile cultures		10
Gland cultures		1
Knee fluid cultures		16
Cultures from skin lesions		8
Cultures of pus from various locations		19
Cultures for Ducrey's bacillus		39
Autopsies cultured		119
Organs, exudates, etc., from above autopsies		247
Surgical tissues cultured		17
Darkfield examinations		319
Positive for *Treponema pallidum*	32	
Conjunctival smears		132
Throat smears		378
Positive for *fusiform bacillus and spirillum of Vincent's angina*	173	
Smear from granuloma for Leishmania (Positive 1)		2
Swab from throat for thrush		1
Sputum smears for *B. tuberculosis*		155
Positive for *B. tuberculosis*	21	
Smear from vocal cords for *B. tuberculosis*		1
Spinal fluid for *B. tuberculosis*		5
Positive for *B. tuberculosis*	2	
Urine examined for *B. tuberculosis*		14
Fluid from hip joint examined for *B. tuberculosis*		1
Pus from rectum examined for *B. tuberculosis*		1
Urines for darkfield examination for spirochaetes		12
Smears from venereal lesions		242
Positive for *fusiform bacilli and spirilla similar to those found in Vincent's angina*	16	
Urethral smears		161
Prostatic smears		1
Vaginal smears		10
Cell count of spinal fluids		12
Leper suspects		18
Positive for *B. leprae*	13	
Leper for parole		1
Autogenous vaccines prepared		68
Feces for parasites and ova		159
Blood for filaria		4
Blood films for relapsing fever spirilla		2
Blood films for malarial parasites		633
Positive for *Tertian malarial parasites*	113	
Positive for *E. A. malarial parasites*	107	
Positive for *quartan malarial parasites*	4	
Positive for malarial parasites, type undetermined	4	
Urines for gonococcus		2
Red blood corpuscle counts		91
White blood corpuscle counts		88
Differential blood counts		96
Hemoglobin estimations		90

BACTERIOLOGICAL EXAMINATIONS.—Continued.

Water from Balboa clubhouse swimming pool	291
Water from Balboa Army and Navy Y. M. C. A. swimming pool	303
Water from Arenal River	12
Water from Health Office, Panama	11
Water from Washington Hotel swimming pool	13
Water from Rio Abajo	2
Water from Fort Clayton	6
Water from Corozal swimming pool	9
Water from Flamenco Island well	2
Water from Shimmie Beach	3
Water from Bruja Point	2
Water from Coco Solo	1
Water from beach	1
Paul test for smallpox	2
Autoclave tested	1
Food stuffs examined:	
Milk cultured for bacteria count	441
Candy cultured	1
Ham cultured	1
Food from Coco Solo, lots	1
Miscellaneous smears and examinations	150

SEROLOGICAL EXAMINATIONS.

Wassermann tests	17,629
Gonococcus complement fixation tests	5
Tuberculosis complement fixation tests	2
Blood typing for transfusion	5
Examination of blood for coagulation time	1
Blood sera prepared by Swift-Ellis method for intraspinal injections	5
Agglutination tests	108
Blood for Van den Bergh test	30

ANALYSIS OF WASSERMANN REACTIONS.

A total of 17,116 Wassermann tests were performed on the blood of 10,958 persons. The results of these tests are summarized below:

TABLE SHOWING NUMBER OF PERSONS ON WHOM BLOOD WASSERMANN TESTS WERE MADE AT BOARD OF HEALTH LABORATORY AND RESULTS OF TESTS, 1925.

Race, sex, and status.	Individuals positive.	Individuals negative.	Total individuals tested.	Per cent of individuals positive.
White, civil, U. S. citizens:				
Males	229	1,858	2,087	10.97
Females	15	258	273	5.49
Children	.....	25	25	.....
White, soldiers, male, U. S. citizens	445	2,991	3,436	12.95
Totals	689	5,132	5,821	11.84
White, other than U. S. citizens:				
Males	78	363	441	17.69
Females	21	185	206	10.19
Children	2	9	11	18.18
Totals	101	557	658	15.35
Blacks and Mulattoes:				
Males	586	1,763	2,349	24.95
Females	363	1,514	1,877	19.34
Children	27	182	209	12.92
Totals	976	3,459	4,435	22.01
Chinese, males and females	10	34	44	22.73
Grand totals	1,776	9,182	10,958	16.21

The figures in the above table are based on the number of individuals examined and not on the number of tests made.

In addition, Wassermann tests were made on 513 spinal fluids taken from 398 individuals, and of these tests 65 or 12.67 per cent were positive.

PATHOLOGICAL EXAMINATIONS.

Autopsies.—A total of 305 autopsies were performed at the Board of Health Laboratory. The causes of death were as follows:

General diseases:	
Paratyphoid fever (*B. paratyphosus B*)	1
Malaria, estivoautumnal	7
Diphtheria	1
Dysentery, bacillary	3
Leprosy	3
Acute anterior poliomyelitis	1
Meningococcus meningitis	1
Tuberculosis of the lungs	29
Tuberculous meningitis	1
Tuberculous peritonitis	1
Disseminated tuberculosis, acute	1
Disseminated tuberculosis, chronic	2
Tertiary syphilis	5
Cerebrospinal syphilis	2
Hereditary syphilis	2
Pyemia and septicemia	2
Septicemia	2
Epidermoid carcinoma of the tongue	2
Carcinoma of the pharynx	1
Carcinoma of the esophagus	1
Carcinoma of the stomach	5
Primary carcinoma of the liver	2
Lymphosarcoma	1
Carcinoma of the cervix uteri	1
Hypernephroma of the kidney	1
Carcinoma of the bladder	1
Carcinomatosis	1
Pellagra	5
Hyperglycemia	1
Diabetes mellitus	1
Alcohol poisoning, accidental	1
Chronic lead poisoning	1
Hemorrhagic disease of the newborn	1
Total	90
Disease of the nervous system and of the organs of special sense:	
Suppurative meningitis	1
Cerebral hemorrhage	6
Cerebellar hemorrhage	2
General paralysis of the insane	8
Dementia precox	1
Cerebral softening	2
Total	20
Diseases of the circulatory system:	
Acute pericarditis	2
Acute endocarditis	4
Endocarditis and myocarditis	1
Angina pectoris	1
Chronic myocarditis	6
Chronic myocarditis with heart block	1
Chronic endocarditis	3
Cardiac hypertrophy and dilatation with decompensation	1
Cardiobronchial asthma	1
Ruptured aortic aneurysm[1]	5
Aneurysm of innominate artery	1
Arteriosclerosis	3
Total	29
Diseases of the respiratory system:	
Chronic bronchitis	1
Bronchopneumonia	6
Acute hemorrhagic bronchopneumonia	1
Lobar pneumonia	8
Gangrene of the lung	2
Acute respiratory infection	2
Total	20
Diseases of the digestive system:	
Ruptured pyloric ulcer	1
Perforated duodenal ulcer	1
Duodenal ulcers with hemorrhage	1
Enteritis and colitis (under 2 years)	3
Enterocolitis (2 years and over)	1
Perforated gangrenous appendix	2
Intestinal obstruction	2
Intestinal intussusception	1
Atrophic cirrhosis of the liver	1
Cholelithiasis	1
Acute peritonitis	2
Total	16
Nonvenereal diseases of the genito-urinary system and annexa:	
Acute nephritis	5
Chronic nephritis	11
Pyonephritis	3
Pyelonephrosis	1
Strictures of the urethra	1
Hypertrophy and abscess formation of prostate	1
Prolapsus uteri	1
Total	23
The puerperal state:	
Ruptured tubal ectopic pregnancy	1
Hyperemesis gravidarum	1
Hydatidiform mole (and uterine hemorrhage)	1
Ulceration of the perineum following third degree laceration	1
Gangrenous metritis, puerperal	1
Puerperal septicemia	1
Puerperal eclampsia	1
Total	7
Diseases of the skin and of the cellular tissue:	
Gangrene of the left foot and leg	1
Gangrene of the fauces	1
Total	2
Malformations:	
Congenital circulatory anomalies	2
Congenitally cystic kidneys	1
Malformation of the brain	1
Total	4

[1] One performed at Santo Tomas Hospital.

PATHOLOGICAL EXAMINATIONS.—Continued.

Diseases of early infancy:	
Hemorrhagic icterus neonatorum	2
Malnutrition	5
Premature birth	10
Asphyxia neonatorum pallida	1
Infection of the umbilicus	1
Total	19
Affections produced by external causes:	
Suicide by drowning	1
Suicide by firearms	5
Snake bite	2
Acute phosphorus poisoning	1
Accidental burns due to hot fluid	2
Accidental drowning	8
Traumatism by firearms, accidental	3
Traumatism by fall, accidental	2
Traumatism by railroad, accidental	2
Traumatism in automobile accident	1
Traumatism by falling tree	1
Traumatism by a mule	1
Homicide by firearms	4
Traumatism by fall, homicidal	1
Affections produced by external causes—Contd.:	
Traumatism by blow and fall, homicidal	1
Traumatic rupture of the stomach with hemorrhage	1
Traumatic rupture of the intestine	1
Traumatic suppurative myositis	1
Total	38
Ill-defined diseases:	
Undetermined	4
Acute undetermined infection	1
Total	5
Appendix:	
Stillbirth (accident of pregnancy)	8
Stillbirth (accident of labor)	5
Stillbirth (resulting from disease of mother)	3
Stillbirth (cause undetermined)	14
Stillbirth (due to abnormality of child)	2
Total	32
Grand total	306

TABLE SHOWING THE MORE FREQUENT CAUSES OF DEATH FOUND AT AUTOPSY IN BOARD OF HEALTH LABORATORY, 1925.

Cause of death.	Cases.	Per cent of autopsies.
External causes	38	12.42
Tuberculosis (acute and chronic)	34	11.11
Organic heart disease (acute and chronic)	17	5.56
Syphilis (including general paresis)	17	5.56
Bright's disease (acute and chronic nephritis)	16	5.23
Cancer	16	5.23
Pneumonia (broncho and lobar)	15	4.90
Premature birth	10	3.27

TABLE SHOWING SOME OF THE MORE FREQUENT CAUSES OF DEATH FOUND AT AUTOPSY IN BOARD OF HEALTH LABORATORY, 1904 to 1925.

Year.	Number of autopsies per year.	Pneumonia.	Tuberculosis.	Hemoglobinuric fever and malaria.	Affections produced by external causes.	Chronic nephritis.	Combined types of dysentery.	Organic heart disease.	Typhoid.	Diarrhea and enteritis (in children.)	Cancer.	Syphilis, including general paralysis.
1904	6	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
1905	269	60	9	27	3	8	5	3	9	.....	2	.....
1906	509	191	22	50	24	23	39	15	33	.....	2	.....
1907	496	156	35	27	40	27	36	12	58	4	4	1
1908	361	59	63	46	26	25	23	11	14	.....	7	2
1909	295	55	37	26	32	31	11	17	11	1	5	.....
1910	451	50	91	52	30	37	36	16	10	6	4	1
1911	508	83	102	41	38	36	19	20	9	11	11	.....
1912	425	53	79	23	37	27	15	22	6	7	11	2
1913	460	47	89	21	34	26	8	26	5	23	12	11
1914	375	36	78	6	38	12	6	27	5	14	3	5
1915	328	28	56	14	20	12	5	14	2	15	10	9
1916	323	25	81	8	17	20	7	10	6	9	7	15
1917	330	24	51	5	21	23	3	18	1	3	5	12
1918	253	38	68	6	6	12	.....	8	.....	1	5	5
1919	324	22	55	3	15	14	3	20	3	10	11	8
1920	334	[1] 46	55	.....	29	11	5	16	.....	.....	6	15
1921	289	14	37	4	16	5	8	17	2	4	7	20
1922	262	14	29	5	19	9	4	9	3	6	10	14
1923	205	6	17	3	9	9	5	12	2	1	11	14
1924	263	14	33	3	29	10	4	21	1	3	13	12
1925	306	15	34	7	38	11	3	18	1	3	16	17
Totals.	7,372	1,037	1,122	377	521	388	245	332	181	121	162	163

[1] This includes 32 cases of influenza.

TABLE SHOWING NUMBER OF AUTOPSIES PERFORMED REVEALING THE FOLLOWING DISEASES PER YEAR AT BOARD OF HEALTH LABORATORY, 1904 TO 1925.

Year.	Autopsies performed per year.	Yellow fever.[1]	Beriberi.	Ankylostomiasis.	Tetanus.	Infectious diseases of children	Plague.	Smallpox.
1904	6							
1905	269	12	7	7	2		1	
1906	509	1	5	4				
1907	496		1	2	1			
1908	361		1	2	3			
1909	295	2					1	
1910	451	2						
1911	508		1	1	1		1	
1912	425	1			1	4		
1913	460			2	3	1		
1914	375		1		4	2		
1915	328	3	1		2	1		
1916	323		2			3		1
1917	330		7		1	2		
1918	253			2		3		
1919	324	2				3		
1920	334					[2]1		
1921	289					2		2
1922	262				1	3		
1923	205				1			
1924	263					2		
1925	306					3		
Totals	7,372	23	26	20	20	30	3	3

Per cent autopsied.—Four hundred and twenty-two bodies (not including 2 disinterred) passed through the laboratory; 306 or 72.51 per cent were autopsied, one of these having been done at Santo Tomas Hospital before receipt at the laboratory.

Malaria carriers found at autopsy, 12.

Syphilis found at autopsy (cases), 43.

Intestinal parasites found at autopsy.—Thirty cases in the 305 autopsies performed at the laboratory, or 9.8 per cent, showed one or more parasites or their ova, as follows:

Uncinaria	19	Strongyloides	2
Trichocephalus	8	Oxyuris	1
Ascaris	7	Trichomonas	1

Multiple infections occurred as follows:

Uncinaria, trichocephalus and ascaris	1	Ascaris and trichocephalus	3
Uncinaria and trichocephalus	1	Strongyloides and trichomonas	1
Uncinaria and ascaris	1		

TABLE SHOWING CAUSES OF DEATH FOUND AT AUTOPSY OF LEPERS IN BOARD OF HEALTH LABORATORY, 1925.

Autopsy No.	Cause of death.	Contributory causes.
7153	Leprosy	
7200	Leprosy	Multiple ulcers of skin and subcutaneous tissues and acute suppurative arthritis, left shoulder.
7210	Pulmonary tuberculosis	Leprosy; empyema, right.
7218	Pulmonary tuberculosis	Leprosy; pleurisy, right, tuberculous.
7284	Chronic endocarditis	Cardiac hypertrophy and dilatation; leprosy.
7359	Leprosy	Bronchopneumonia; psychosis, undetermined.

[1] All cases since 1905 were imported cases.
[2] Scarlet fever.

NUMBER OF MICROSCOPIC EXAMINATIONS AND REPORTS ON SURGICAL SPECIMENS.

Eyes enucleated	5
Eyelid, specimen from	1
Nose, specimens from	2
Ear, specimens from	6
Lips, specimens from	6
Mouth, specimens from	6
Tooth and surrounding tissues	1
Tongue, specimens from	6
Epulis	1
Throat, specimen from	1
Parotid with tumor	1
Tonsils, pairs	407
Tonsils, one	3
Tonsils, pairs, and adenoids	386
Adenoids	8
Larynx, specimens from	4
Neck, specimens from	3
Thyroid cartilage, specimen from	1
Thyroid glands and specimens from same	11
Breasts	7
Breast, specimens from	18
Peritoneum and omentum, specimens from	2
Gall bladders	4
Liver, specimens from	3
Spleen	1
Kidneys, and specimens from same	5
Bladder, specimens from	6
Prostates	6
Combined external male genitalia	2
Penis, specimens from	3
Hydrocele sac	1
Scrotum, specimens from	2
Testes	5
Epididymes	4
Cord, umbilical	1
Foreskins	4
Uteri	9
Uteri and adnexa	77
Uteri, adnexa and appendices	30
Uteri, specimens from	30
Uteri and appendices	2
Intra-abdominal pregnancy, fetus and sac intact	1
Uterine cervices or specimens from	42
Tube or tubes	4
Tube or tubes with ovary or ovaries	25
Tube or tubes with other specimens	9
Tubal ectopics	4
Ovary or ovaries and specimens from same	7
Ovary or ovaries combined with other specimens (tubes excepted)	3
Specimens from external female genitalia	8
Jejunum and diverticulum	1
Appendices (including 58 removed with female genitalia)	236
Rectum, specimens from	3
Rectal and anal fistulae	3
Appendiceal epiploica	1
Ileum, portion of, cecum and appendix	1
Anus, and anal region, specimens from	6
Cysts, coccygeal	2
Upper extremities, amputations of portions of, (specimens of)	12
Lower extremities	13
Skin and subcutaneous tissues, specimens from	20
Skin and subcutaneous tissues, tumor of	25
Bones, specimens of	5
Joints, specimens from	3
Muscle, specimens from	3
Tendon, specimen from	1
Lymph nodes, cervical	8
Lymph nodes, axillary	5
Lymph nodes, inguinal	14
Lymph nodes, femoral	3
Lymph nodes, inguinal and femoral	1
Lymph nodes, omental and mesenteric	1
Lymph nodes, miscellaneous, and locations not given	7
Placentae	2
Colon Hospital autopsy sets of tissues (54 tissues)	18
Tissue indefinitely located	3
Total	1,581

Lesions in surgical specimens.—The principal lesions encountered in surgical specimens other than inflammatory, were as follows:

Malignant tumors (cancer):

Eye and adnexa	1
Lip	2
Mouth	1
Tongue	4
Parotid	1
Tonsil (capsule)	1
Larynx	1
Breast	11
Liver	2
Kidney	1
Prostate	1
Penis	4
Uterus	4
Cervix	13
Ovary	1
External female genitalia	3
Appendix	1
Skin and subcutaneous tissue	13
Bone	1
Lymph nodes (adenomyosarcoma)	1
Lymph node (gliosarcoma)	1
Lymph node (myxocarcinoma)	1
Lymph node (carcinoma)	1
Total	70

Benign tumors:

Staphyloma of eye	1
Aural polyps	2
Mucous cyst of lip	1
Epithelial cysts of lip	2

Benign tumors—Continued:

Epulis of jaw	5
Papilloma of throat	1
Laryngeal polyp	1
Laryngeal papillomata	2
Colloid goiters	6
Reidel's struma	1
Cystic goiters	3
Aberrant thyroid tissue	1
Cysts of breast	3
Chronic adenomatoid mastitits	1
Intracanalicular fibroadenomata of breast	2
Fibroadenomata of breast	2
Aberrant breast tissue	1
Papilloma of bladder	1
Hypertrophied prostates	2
Fibromyomata uteri	50
Uterine polyps	5
Cervical polyps	3
Nabothian cysts	4
Papilloma of ovary	1
Fibroma of ovary	1
Corpus luteum cysts	2
Cystic ovaries	76
Ovarian cysts, simple	3
Dermoid cysts of ovaries	7
Chocolate cysts of ovaries	2
Parovarian cysts	1
Papillomata of female genitalia	1
Epithelial cyst of foot	1
Fibrohemangiomata of skin	2
Papillomata of skin	4
Nevi of skin	3

Benign tumors—Continued:	
Lipomata of skin and subcutaneous tissues	6
Keloid of skin	1
Cysts of skin and subcutaneous tissues	2
Granuloma of skin and subcutaneous tissues	1
Lymphangioendothelioma of subcutaneous tissues	1
Pilonidal cysts (coccygeal region)	2
Fibromata of skin and subcutaneous tissues	4
Hygromata, abdominal wall	1
Capillary hemangiomata of skin	3
Clavus	1
Subperiosteal exostosis	1
Total	227
Specimens showing tuberculosis:	
Tonsils	13
Adenoids	8
Tonsils and adenoids	4
Lymph nodes, cervical	4
Lymph nodes, inguinal	1
Lymph nodes, abdominal	1
Lymph nodes, axilliary	1
Lymph nodes, miscellaneous	1
Appendix	1
Sinus, coccygeal region	1
Epididymis	1
Osteo-chondral junction of rib	1
Breasts	2
Chest wall	1
Scrotum, testes, and both epididymes	1
Vaginal ulcer	1
Specimens showing tuberculosis—Continued:	
Skin	2
Tube, ovary and appendix	1
Ovary	1
Nasal cartilage	1
Total	47
Other infrequent lesions encountered:	
Blastomycosis of dorsum of hand and wrist	1
Fungus (epidermophyton peneti) in leg lucer	1
Gaucher splenomegaly	1
Leprosy of finger	1
Lymph node from acute lymphatic leukemia	1
Ova in skin from soles of feet	1
Gangrene of testicle from torsion of cord in infant	1
Hemorrhagic encephalitis (Colon Hospital autopsy tissue)	1
Intact intra-abdominal pregnancy, past term	1
Supernumerary digit of hand of newborn	1
Appendiceal epiploica strangulated by torsion	1
Intussusception of jejunum with diverticulum at proximal end	1
Mossy foot	1
Total	13
Miscellaneous human examinations:	
Placentae	329
External description of human body	1
Larvae from ear for identification	1
Total	331

WILD AND DOMESTIC ANIMALS.

Bacteriological:	
Cattle spleen cultured for *B. anthracis*	1
Cattle ears cultured for *B. anthracis* (Positive 1)	3
Cattle smears examined for piroplasma bigeminum (Positive 1)	18
Total	22
Autopsies:	
Guinea pigs	18
Goats	2
Dogs	3
Wild turkey	1
Rabbit	1
Chickens	2
Duck	1
Monkey	1
Total	29
Histological examinations:	
Rabbit's liver	1
Steer's liver	1
Tissues from sow (5 tissues)	1
Tissue from stag	1
Histological examinations—Continued:	
Eyes of sea lion	1
Cattle tissues for tuberculosis	8
Calf's lung	1
Mouse's lung	1
Ulcer of mule's ear	1
Bony tumor of fish	1
Total	17
Miscellaneous examinations:	
Dogs held under observation for rabies	1
Mosquitoes examined for malarial parasites	18
Trypan blue solution prepared for intravenous injection, lots	15
Identification of spinous rat	1
Blood smears from cow for piroplasmosis	1
Total	36
Rats examined:	
Mus musculus	3,334
Mus alexandrinus	139
Mus norwegicus	116
Mus rattus	1,545
Total	5,134

MICROSCOPIC SLIDES PREPARED.

Surgical preparations (4 frozen)	5,641
Autopsy preparations (10 frozen)	3,266
Animal preparations	264
Total	9,131

PHOTOGRAPHS.

Photographs taken at Board of Health Laboratory	12
Photographs taken of lepers at Palo Seco (taken by Dr. Philip Horwitz)	91
Total	103

CHEMICAL ANALYSES AND EXAMINATIONS.

Abdominal fluid, urea determination		1
Air analyses, alveolar		37
Ascitic fluid, urea determination		1
Beverages		64
Beers, alcohol determination	26	
Poncha Crema, alcohol determination	1	
Rum, alcohol determination	1	
Soda water, detection of saccharine	27	
Soda water, detection of salicylic acid	9	
Whisky, alcohol determination	1	
Blood analyses		1,307
Nonprotein nitrogen determinations	611	
Urea nitrogen determinations	872	
Uric acid determinations	777	
Creatinin determinations	871	
Glucose determinations	1,191	
Albumin-globulin ratio determinations	3	
Calcium determinations	17	
Carbon dioxide determinations	13	
Cholesterol determinations	2	
Phosphorus, inorganic determinations	4	
Hemoglobin-oxygen combining power	8	
Sodium choloride determinations	13	
Calculus, biliary		1
Calculus, urethral		1
Calibrations		8
Haldane apparatus	1	
Sphygmomanometers	7	
Drugs and chemicals		8
Alcohol	1	
Bay Rum, denaturants	1	
Cattle dip	3	
Magnesium sulphate solution	1	
Paraffin, melting point	2	
Food stuffs		371
Baking powder	1	
Butter	1	
Cream	4	
Lemon juice, acidity	1	
Lime juice, acidity	1	
Milks, evaporated	3	
Milks, condensed	2	
Milks, dairy	331	
Milks, mother's	14	
Milks, pH determination	7	
Vinegars	6	
Gastric analyses		187
Serum from blisters, urea determination		4
Spinal fluids		510
Colloidal gold tests	485	
Ammonium sulphate tests	478	
Phenol tests	478	
Glucose determinations	18	
Substances for identification		19
Barium sulphate in stomach contents	1	
Cocaine hydrochloride	12	
Morphine	1	
Opium	5	
Thoracic fluid, albumin determination		1
Toxicological examinations		6
Stomach contents for alcohol	1	
Stomach contents for phosphorus	1	
Sugar for mercuric chloride	2	
Suspected poison	1	
Viscera for lead	1	
Urine examinations		260
Acetone bodies determinations	4	
Albumin determinations	11	
Ammonia determinations	1	
Blood, occult	1	
Chloride determinations	20	
Glucose determinations	30	
Lead detection	14	
Nitrogen determinations	20	
Routine analysis	187	
Water, free chlorine detection		1
Water, sodium chloride determinations		31
Alcohol, absolute, recovered, liters		35
Alcohol, 95 per cent, recovered, liters		193
Aniline oil recovered, liters		4
Ethyl esters of chaulmoogric acids prepared, liters		41

UNDERTAKING DEPARTMENT.

Bodies received (2 disinterred)	425
Bodies embalmed	76
Bodies cremated	114
Bodies buried on the Isthmus	251
Bodies shipped from Isthmus	59

GENERAL TABLES.

TABLE I.—DISCHARGES FROM HOSPITALS, DEATHS, AND NONEFFECTIVE RATES FOR EMPLOYEES.

ABSOLUTE NUMBERS.

	Average number of employees.	Discharges from hospitals.			Deaths.			Days treatment in hospitals and quarters.	Average number sick per day.
		Total.	Disease.	External causes.	Total.	Disease.	External causes.		
Year 1925:									
White	3,123	707	646	61	13	9	4	16,266	44.56
Black	9,057	1,252	1,067	185	96	85	11	44,957	123.17
Totals	12,180	1,959	1,713	246	109	94	15	61,223	167.73
Year, 1924:									
White	3,055	583	544	39	19	13	6	15,229	41.72
Black	8,570	1,179	971	208	65	51	14	42,079	115.28
Totals	11,625	1,762	1,515	247	84	64	20	57,308	157.00

ANNUAL AVERAGE PER 1,000 EMPLOYEES.

Year 1925:									
White	.....	226.38	206.85	19.53	4.16	2.88	1.28	.....	14.27
Black	.....	138.24	117.81	20.43	10.60	9.39	1.21	.....	13.60
Totals	.....	160.84	140.64	20.20	8.95	7.72	1.23	.....	13.77
Year 1924:									
White	.....	190.84	178.07	12.77	6.22	4.26	1.96	.....	13.66
Black	.....	137.57	113.29	24.28	7.58	5.95	1.63	.....	13.45
Totals	.....	151.57	130.32	21.25	7.23	5.51	1.72	.....	13.51

TABLE II.—CAUSES OF DEATHS OF EMPLOYEES ARRANGED WITH REFERENCE TO COLOR, AGE, AND LENGTH OF RESIDENCE ON ISTHMUS, 1925.

	Total deaths.	Color.		Age (in years).											Length of residence on Isthmus (in years).											
		White.	Black.	15–20	21–25	26–30	31–35	36–40	41–45	46–50	51–55	56–65	66–75	Unknown.	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–10	10–15	Over 15	Life.	Unknown.
Tuberculosis of the respiratory system	13	1	12			2	5	3			1	2										1	5	4	1	2
Tertiary syphilis	2		2			1			1														1	1		
Septicemia	2	1	1							2														1	1	
Cancer and other malignant tumors of the buccal cavity	2		2						1			1												2		
Cancer and other malignant tumors of the stomach and liver	6		6		1		1			3		1											1	5		
Cancer and other malignant tumors of the peritoneum, intestines, and rectum	1	1						1														1				
Cancer and other malignant tumors of the female genital organs	1		1								1						1									
Cancer and other malignant tumors of other or unspecified organs	3		3		1		1	1															1	2		
Pellagra	1		1							1														1		
Diabetes mellitus	1		1									1												1		
Cerebral hemorrhage	9	2	7					3	3		1	1		1										6		3
General paralysis of the insane	1		1					1															1			
Acute endocarditis	3		3			1	2															1		2		
Organic diseases of the heart	14	3	11					2	2	1	2	3	4								1		2	9		2
Aneurysm	2		2						1			1														2
Arteriosclerosis	2		2							1		1												1		1
Embolism and thrombosis (not cerebral)	1		1					1																1		
Broncho pneumonia	2		2			1			1															2		
Lobar pneumonia	7		7				1	4		2												1		5		1
Ulcer of the stomach	1	1							1															1		
Diarrhea and enteritis	2		2						1	1														1		1
Acute appendicitis	1		1					1															1			
Intestinal obstruction	1		1								1													1		
Diseases of the liver	1	1								1																1
Peritonitis without specified cause	1		1				1																			1
Acute nephritis	2		2			1				1									1							1
Chronic nephritis	6		6				2	1		1	1	1												4		2
Stricture of the urethra	1		1					1															1			
Abscess of the prostate	2	1	1					1			1													1	1	
Gangrene	1		1						1															1		
Acute abscess	1		1				1																1			
Arthritis	1		1									1													1	
Suicide by drowning	1		1				1																	1		
Accidental drowning	3		3				1		1	1														1		2
Accidental traumatism by fall	2	1	1				1		1																	2
Accidental traumatism by machines	1		1						1														1			
Railroad accident	3	1	2				1		1	1					1								1	1		
Automobile accident	1		1			1																				1
Injury by other vehicles	1		1	1													1									
Accidental electric shock	1	1						1							1											
Other external violence	2	1	1					1	1															2		
Totals	109	15	94	1	2	7	18	22	17	16	8	13	4	1	2		2		1		1	4	15	58	4	22

TABLE III.—DEATHS OF RESIDENTS AND DEATH RATES, OF THE CANAL ZONE AND THE CITIES OF PANAMA AND COLON.

Place.	Population.	Deaths.			Annual rate per 1,000 population.		
		Total.	Disease.	External causes.	Total.	Disease.	External causes.
Year 1925:							
Panama	59,635	1,169	1,126	43	19.60	18.88	.72
Colon	31,285	401	379	22	12.82	12.12	.70
Canal Zone	34,840	297	241	56	8.53	6.92	1.61
Totals	125,760	1,867	1,746	121	14.85	13.89	.96
Year 1924:							
Panama	59,635	1,168	1,128	40	19.59	18.92	.67
Colon	31,285	475	455	20	15.18	14.54	.64
Canal Zone	33,723	305	270	35	9.05	8.01	1.04
Totals	124,643	1,948	1,853	95	15.63	14.87	.76

TABLE IV.—DEATHS OF RESIDENTS OF THE CANAL ZONE AND THE CITIES OF PANAMA AND COLON, BY CAUSE, SEX, COLOR, AGE, AND PLACE OF RESIDENCE, 1925.

Cause of death.	Total deaths.	Sex.		Color.			Age (in years).											Place of residence.		
		M.	F.	W.	B.	Y.	Under 1 year.	1–4	5–10	11–20	21–30	31–40	41–50	51–60	61–75	76–100	Age unknown	Panama.	Colon.	Canal Zone.
Epidemic, endemic, and infectious diseases.																				
Typhoid fever	1	1			1						1								1	
Paratyphoid fever	1	1			1		1												1	
Malaria, estivoautumnal	21	10	11	4	15	2	1	4	4	3	2	4	2		1			8	5	8
Malaria, type undetermined	3	2	1	1	2					1		1	1					3		
Malaria, clinical	8	4	4		8			2		1	1	2	1		1			1	6	1
Hemoglobinuria, malarial	1	1			1									1				1		
Diphtheria	7	2	5	2	5			5	1			1						7		
Influenza without pulmonary complications specified	1	1		1				1										1		
Dysentery, amebic	11	5	6	1	10			1			5	3	2					9	2	
Dysentery, bacillary	4	3	1		4		1					2			1			2	1	1
Dysentery, unclassified	2	2			2							2						1		1
Leprosy	2	1	1		2							1			1					2
Erysipelas	1	1		1			1													1
Acute anterior poliomyelitis	2	1	1	1	1				1		1							1		1
Chicken-pox	1	1		1			1											1		
Tetanus	2	2			2						1			1				2		
Tuberculosis of the respiratory system	277	137	140	23	240	14	5	7	10	27	63	91	38	20	13	2	1	191	58	28
Tuberculosis of the meninges and central nervous system	15	8	7	2	13		2	6	5	1	1							10	3	2
Tuberculosis of the intestines and peritoneum	6	3	3		5	1			2			1	1	2				4	1	1
Tuberculosis of the vertebral column	5	2	3		5				1	1	2	1						4	1	
Tuberculosis of the bones (vertebral column excepted)	1		1		1										1			1		
Tuberculosis of the genito-urinary system	1		1		1									1				1		
Tuberculosis of other organs than the above	1	1			1							1						1		
Acute disseminated tuberculosis	7	6	1	1	6		2	4		1								4	2	1
Chronic or unspecified disseminated tuberculosis	3		3		3			2			1							3		
Primary syphilis	1	1			1								1					1		
Tertiary syphilis	21	17	4	1	20						5	2	7	4	3			14	5	2
Cerebrospinal syphilis	3	2	1		3							1		1	1			1		2
Hereditary syphilis	5	1	4		5		3	2										2	1	2
Other forms of syphilis	5	3	2		5					1		1	1	1	1			2	3	
Chancroidal lymphadenitis	1	1			1					1								1		
Pyemia and septicemia	2	1	1		2			1					1							2
Septicemia	13	6	7	2	11		1	1	1		2	1	3		2	2		10	1	2
General diseases not included in the above class.																				
Cancer and other malignant tumors of the buccal cavity	7	3	4	1	6								1	1	4	1		4	2	1
Cancer and other malignant tumors of the stomach and liver	23	17	6	6	16	1					1	2	7	6	5	2		15	3	5

Cancer and other malignant tumors of the peritoneum, intestines, and rectum	7	5	2	4	3							2	2	1		2		5		2
Cancer and other malignant tumors of the female genital organs	23		23	2	21							4	7	5	4	3		17	3	3
Cancer and other malignant tumors of the breast	1		1		1										1			1		
Cancer and other malignant tumors of other or unspecified organs	15	11	4	3	11	1		1	1		1	2	3	4	2	1		11	3	1
Acute rheumatic fever	1		1	1					1									1		
Pellagra	12	2	10	1	11					1		4	5	1	1				9	3
Beriberi	2	2			2					1		1						1	1	
Rickets	1		1		1			1											1	
Diabetes mellitus	5	2	3		5		1					1		3				3	1	1
Pernicious anemia	3	1	2	2	1									1	2			2		1
Other anemias and chlorosis	1		1		1						1							1		
Exophthalmic goiter	1	1			1							1							1	
Diseases of the thymus gland	1	1			1			1											1	
Diseases of the spleen	1	1			1									1				1		
Leukemia	1	1		1										1				1		
Acute alcoholism	2	1	1	1	1							1	1					1	1	
Alcoholic psychosis	1	1			1							1						1		
Others under this title	1		1		1			1										1		
Drug habit	1	1				1						1						1		
Other general diseases	5	3	2		5		3			1		1						2	1	2
Diseases of the nervous system and of the organs of special sense.																				
Encephalitis	2	2			2				1		1							1	1	
Simple meningitis	9	6	3	2	7		3	2	3			1						7	2	
Nonepidemic cerebrospinal meningitis	2	2		2			1				1							1	1	
Tabes dorsalis (locomotor ataxia)	1		1		1								1					1		
Other diseases of the spinal cord	2	1	1	1	1							1		1					1	1
Cerebral hemorrhage	55	33	22	6	48	1	3			4		6	14	10	12	5	1	22	23	10
Hemiplegia	5	5		1	3	1				1		1		1	2			5		
Other paralyses without specified cause	3	2	1	1	2									1	2			2	1	
General paralysis of the insane	11	8	3	1	8	2					3	3	2	1	2			3		8
Dementia precox	1	1			1						1									1
Other forms of mental alienation	1	1			1								1					1		
Epilepsy	5	4	1	1	4			1		2	2							4	1	
Convulsions (non-puerperal; 5 years and over)	2		2		2				1	1									2	
Infantile convulsions (under 5 years of age)	5		5		5			5											3	2
Softening of the brain	3	2	1	1	2								1	2				1	1	1
Other diseases of the nervous system	2	1	1		2						1		1						2	
Diseases of the circulatory system.																				
Pericarditis	7	4	3		7		1		2			1	1		2			5	2	
Acute endocarditis	9	7	2	4	5		1			2	3	2	1					3	4	2
Acute myocarditis	6	4	2	2	4		2		1			2		1				6		
Angina pectoris	4	2	2		4						1	3						4		
Other diseases of the heart	124	68	56	21	102	1	2	1	2	6	11	23	27	26	19	7		79	20	25

TABLE IV.—DEATHS OF RESIDENTS OF THE CANAL ZONE AND THE CITIES OF PANAMA AND COLON, BY CAUSE, SEX, COLOR, AGE, AND PLACE OF RESIDENCE, 1925.—Contd.

Cause of death.	Total deaths.	Sex.		Color.			Age (in years).											Place of residence.		
		M.	F.	W.	B.	Y.	Under 1 year	1–4	5–10	11–20	21–30	31–40	41–50	51–60	61–75	76–100	Age unknown	Panama.	Colon.	Canal Zone.
Diseases of the circulatory system.—Continued.																				
Aneurysm	16	11	5	1	14	1					1	2	4	4	5			9	5	2
Arteriosclerosis	27	14	13	5	22						1		3	3	10	10		23	2	2
Embolism and thrombosis (not cerebral)	2	2			2							1		1				1	1	
Phlebitis	1	1			1						1								1	
Diseases of the lymphatic system	1		1		1		1											1		
Diseases of the respiratory system.																				
Acute bronchitis	26	16	10	2	24		21	5										15	8	3
Chronic bronchitis	5	3	2		5			2				1	2						4	1
Bronchitis unspecified (under 5 years of age)	5	4	1		5		4	1										3	1	1
Bronchopneumonia	124	61	63	9	115		62	41	3	2	1	7	3	1	2	2		106	13	5
Capillary bronchitis	7	4	3	2	5		4	3										6	1	
Lobar pneumonia	55	40	15	7	48		7	8	2	2	8	7	15	4	1	1		25	17	13
Pneumonia unspecified	27	14	13	4	23		5	2	3		6	1	3	2	3	2		19	7	1
Pleurisy	2		2		2								1	1				1	1	
Empyema	2	2			2		1	1										2		
Congestion of the lungs	1	1			1										1				1	
Edema of the lungs	4	2	2		4		1							1		2		4		
Gangrene of the lung	4	2	2	1	3						1		1	1	1			3		1
Asthma	1	1			1									1					1	
Other diseases of the respiratory system	1	1			1							1						1		
Diseases of the digestive system.																				
Ulcer of the stomach	3	2	1		3								1	1	1			2	1	
Ulcer of the duodenum	6	4	2	1	5						1	1	3	1				4	1	1
Gastrectasis	1		1		1							1						1		
Acute gastritis	16	8	8	1	14	1	10	4		1						1		12	3	1
Chronic gastritis	2		2		2							2							2	
Acute indigestion	1		1		1			1											1	
Enteritis, colitis, or entero-colitis (under 2 years of age)	97	53	44	4	93		74	23										69	22	6
Intestinal autointoxication (under 2 years of age)	1	1			1		1												1	
Enteritis, colitis, or entero-colitis (2 years and over)	22	15	7	1	20	1		8	3	1		1	5		4			17	4	1
Cestodes (hydatids of the liver excepted)	1	1		1						1								1		
Other intestinal parasites	1	1			1			1										1		
Acute appendicitis	7	4	3	2	5					1	2	3	1					3	2	2
Hernia	4	2	2		4							1	2	1				3	1	
Intestinal obstruction	16	11	5	3	12	1	6				2	3	4	1				11	2	3

Other diseases of the intestines	5	1	4	2	3				1			1	2		1			5		
Acute yellow atrophy of the liver	1		1		1					1								1		
Cirrhosis of the liver specified as alcoholic	2	1	1	1	1								2					1	1	
Cirrhosis of the liver not specified as alcoholic	13	7	6	5	8						1	4	2	4	1	1		9	3	1
Biliary calculi	2	1	1	1	1						1	1							1	1
Cholecystitis	2		2		2								1		1			2		
Other diseases of the liver	3	2	1	1	2							1	2					1	1	1
Peritonitis without specified cause (except puerperal)	6	1	5	1	5				1		2	2	1					3	2	1
Nonvenereal diseases of the genito-urinary system and annexa.																				
Acute nephritis (including unspecified under 10 years of age)	48	30	18	7	41		4	13	4	5	7	6	3	1	4	1		36	4	8
Chronic nephritis (including unspecified 10 years and over)	116	64	52	18	93	5		1	1	3	14	11	29	16	28	13		83	25	8
Pyonephritis	7	4	3		7		2	1			1	1	1		1			4	3	
Pyelonephrosis	4	4			4							2	1		1			2	1	1
Pyelitis	2	2			2									1	1			2		
Other diseases of the kidneys and annexa	1	1			1									1				1		
Calculi of the urinary passages	1		1	1												1				1
Diseases of the bladder	1		1		1										1			1		
Stricture of the urethra	2	2			2							1			1			1		1
Other diseases of the urethra	1	1			1								1					1		
Abscess of the prostate	2	2		1	1							1		1				1	1	
Hypertrophy of the prostate	1	1			1											1		1		
Salpingitis and pelvic abscess (female)	2		2		2							1	1					2		
Benign tumors of the uterus	1		1		1							1						1		
Prolapsus uteri	1		1		1								1							1
The puerperal state.																				
Abortion (miscarriage, premature birth, etc.)	1		1		1					1								1		
Ectopic gestation	5		5		5					1	3	1						3	1	1
Other accidents of pregnancy	3		3		3					1	1	1						2		1
Puerperal hemorrhage	3		3	1	2						2	1						3		
Other accidents of labor	2		2		2						1	1						2		
Puerperal septicemia	4		4		4						1	3						2	1	1
Puerperal albuminuria and convulsions	3		3		3					2	1							1	1	1
Diseases of the skin and of the cellular tissue.																				
Gangrene	2	2		1	1								1			1			1	1
Furuncle	1	1			1							1								1
Acute abscess	3	2	1		3						2	1						1	1	1
Ulcer of the skin	1	1			1							1							1	
Diseases of the bones and of the organs of locomotion.																				
Osteomyelitis	2	2			2			1					1					1		1
Arthritis	1	1			1										1			1		
Malformations.																				
Congenital hydrocephalus	1	1			1					1										1
Congenital malformations of the heart	7	3	4	2	5		7											2	3	2
Other congenital malformations	6	2	4	5	1		4	1					1					2	1	3

TABLE IV.—DEATHS OF RESIDENTS OF THE CANAL ZONE AND THE CITIES OF PANAMA AND COLON, BY CAUSE, SEX, COLOR, AGE, AND PLACE OF RESIDENCE, 1925.—Contd.

Cause of death.	Total deaths.	Sex.		Color.			Age (in years).											Place of residence.		
		M.	F.	W.	B.	Y.	Under 1 year.	1–4	5–10	11–20	21–30	31–40	41–50	51–60	61–75	76–100	Age unknown	Panama.	Colon	Canal Zone.
Early infancy.																				
Congenital debility	21	17	4	.....	19	2	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	6	3
Icterus of the newborn	7	7	.....	1	6	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	1	2
Malnutrition	26	12	14	3	23	.....	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	10	5
Premature birth (less than 1 year only)	52	23	29	6	46	.....	52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	13	9
Injury at birth (less than 3 months only)	5	2	3	.....	5	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	1	.....
Other diseases peculiar to early infancy	28	20	8	1	27	.....	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	4	3
Old age.																				
Senility	12	4	8	3	8	1	.....	.....	.....	.....	.....	.....	.....	.....	3	9	.....	10	1	1
External cases.																				
Suicide by solid or liquid poisons (corrosive sub-substances excepted)	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Suicide by corrosive substances	1	.....	1	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Suicide by drowning	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....
Suicide by firearms	7	6	1	6	1	.....	.....	.....	.....	1	3	2	1	.....	.....	.....	.....	2	1	4
Suicide by cutting or piercing instruments	1	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....
Poisoning by venomous animals	2	2	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	2
Other acute accidental poisonings (gas excepted)	1	.....	1	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Accidental burns (conflagration excepted)	14	8	6	2	12	.....	1	7	2	.....	4	.....	.....	.....	.....	.....	.....	7	1	6
Accidental absorption of irrespirable, irritating or poisonous gas	1	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Accidental drowning	32	29	3	17	15	.....	.....	.....	1	11	9	7	1	2	.....	.....	1	3	5	24
Accidental traumatism by firearms (wounds of war excepted)	3	3	.....	2	1	.....	.....	.....	.....	.....	2	1	.....	.....	.....	.....	.....	.....	.....	3
Accidental traumatism by fall	9	8	1	2	7	.....	1	.....	1	.....	2	1	4	.....	.....	.....	.....	4	4	1
Accidental traumatism by machines	3	3	.....	1	2	.....	.....	.....	.....	1	1	.....	1	.....	.....	.....	.....	1	1	1
Railroad accident	6	4	2	4	2	.....	.....	.....	.....	.....	2	2	2	.....	.....	.....	.....	1	.....	5
Automobile accident	13	9	4	1	12	.....	.....	1	6	2	1	1	1	1	.....	.....	.....	9	4	.....
Motorcycle accident	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
Injuries by other vehicles	1	1	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Landslide, other crushing	2	2	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1	1
Injuries by animals (not poisoning)	3	3	.....	.....	3	.....	.....	.....	.....	.....	2	.....	1	.....	.....	.....	.....	1	.....	2
Other accidental electric shocks	2	2	.....	2	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	2
Homicide by firearms	8	8	.....	4	4	.....	.....	.....	.....	.....	7	1	.....	.....	.....	.....	.....	4	1	3
Homicide by cutting or piercing instruments	4	3	1	.....	4	.....	.....	.....	.....	.....	2	1	1	.....	.....	.....	.....	2	2	.....
Homicide by other means	2	2	.....	1	1	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	.....	.....
Other external violence	6	6	.....	.....	6	.....	.....	.....	.....	.....	2	2	2	.....	.....	.....	.....	3	1	2
Ill-defined diseases.																				
Sudden death	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
Ill-defined	9	2	7	.....	9	.....	.....	6	.....	.....	.....	1	1	1	.....	.....	.....	6	3	.....
Not specified or unknown	11	6	5	1	10	.....	7	3	.....	.....	1	.....	.....	.....	.....	.....	.....	2	3	6
Infection of undetermined origin	2	1	1	1	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2
Surgical operation and shock	2	1	1	1	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	2	.....	.....
Totals	1,867	1,052	815	260	1,570	37	397	185	65	97	215	281	248	151	155	70	3	1,169	401	297

TABLE V.—DEATHS OF NONRESIDENTS, BY CAUSE, SEX, COLOR, AND AGE, 1925.

Cause of death.	Total deaths	Sex.		Color.		Age (in years.)										
		M.	F.	W.	B.	Less than 1 year	1–4	5–10	11–20	21–30	31–40	41–50	51–60	61–75	76–90	Unknown
Typhoid fever	2	2		1	1					1	1					
Malaria, estivoautumnal	8	7	1	2	6			2		3	1	1	1			
Malaria, tertian	1		1	1			1									
Malaria, undetermined	1	1			1		1									
Malaria, clinical	2		2		2					1		1				
Hemoglobinuria, malarial	3	3		2	1							1	2			
Diphtheria	1	1			1									1		
Influenza	1		1	1									1			
Dysentery, amebic	5	3	2		5						1	2	2			
Dysentery, bacillary	1	1		1		1										
Meningococcus meningitis	1	1		1						1						
Tuberculosis of the respiratory system	30	20	10	4	26		1		2	8	11	3	4	1		
Tuberculosis of the intestines and peritoneum	2	1	1		2		1				1					
Disseminated tuberculosis	1	1			1									1		
Syphilis	5	5			5						2	1	1			1
Septicemia	3	3		1	2					1	1	1				
Cancer of the buccal cavity	1		1	1							1					
Cancer of the stomach and liver	8	7	1	5	3					1	1	2	3	1		
Cancer of the intestines	4	2	2	1	3						2	1	1			
Cancer of the female genital organs	3		3	1	2					1			1		1	
Cancer of the skin	1	1		1							1					
Cancer of other organs	3	3		1	2				1		1			1		
Beriberi	1	1			1					1						
Diabetes mellitus	1	1		1										1		
Anemia	1	1		1							1					
Disease of the spleen	1	1		1							1					
Simple meningitis	1	1			1				1							
Cerebral hemorrhage	1	1			1						1					
Disease of the eye and annexa	1	1			1				1							
Acute endocarditis	2	2		1	1				1		1					
Acute myocarditis	1		1		1								1			
Organic diseases of the heart	7	4	3	1	6			1			2	1	1	1	1	
Arteriosclerosis	3	2	1	1	2							1	1	1		
Disease of the lymphatic system	1	1		1			1									
Disease of the larynx	1	1			1							1				
Chronic bronchitis	1	1		1										1		
Broncho pneumonia	6	4	2	1	5	1		1	1	1			2			
Lobar pneumonia	19	16	3	4	15			1	2	6	3	2	2	1	2	
Pneumonia, unspecified	5	4	1	1	4					3	1	1				
Pleurisy	1	1			1							1				
Other diseases of the respiratory system	2	2			2					1	1					
Ulcer of the stomach	1	1		1									1			
Acute indigestion	1	1		1								1				

TABLE V.—DEATHS OF NONRESIDENTS, BY CAUSE, SEX, COLOR, AND AGE, 1925.—Continued.

Cause of death.	Total deaths.	Sex.		Color.		Age (in years).										
		M.	F.	W.	B.	Less than 1 year	1–4	5–10	11–20	21–30	31–40	41–50	51–60	61–75	76–90	Unknown
Enteritis and colitis (under 2 years of age)	2	1	1	.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Enteritis and colitis (2 years and over)	3	2	1	.....	3	.....	.....	.....	1	1	.....	.....	.....	.....	1	.....
Acute appendicitis	1	1	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Hernia	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Cirrhosis of the liver	2	2	.....	1	1	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....
Biliary calculi	1	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Cholecystitis	1	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Peritonitis	2	2	.....	1	1	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....
Chronic nephritis	13	12	1	5	8	.....	1	.....	.....	1	2	2	3	1	3	.....
Disease of the bladder	1	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Hypertrophy of the prostate	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Puerperal albuminuria	1	.....	1	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Following child birth (not otherwise defined)	1	.....	1	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Gangrene	1	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Acute abscess	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Disease of the bones	1	1	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Premature birth	1	1	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Suicide by drowning	1	.....	1	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Suicide by piercing instrument	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Accidental burns	1	1	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Accidental drowning	4	4	.....	1	3	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....
Accidental traumatism by firearms	2	2	.....	1	1	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....
Accidental traumatism by fall	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Accidental traumatism by machines	1	1	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Automobile accident	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Landslide, other crushing	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Excessive heat	1	1	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Homicide by firearms	2	2	.....	.....	2	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Homicide by cutting or piercing instruments	1	1	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Fracture	1	.....	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ill defined	4	3	1	1	3	2	.....	.....	.....	1	.....	.....	1	.....	.....	.....
Unknown	4	2	2	1	3	.....	.....	.....	.....	2	.....	.....	2	.....	.....	.....
Infection of undetermined origin	1	.....	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	206	156	50	63	143	7	9	5	12	39	48	31	30	16	8	1

TABLE VI.—STATISTICS REGARDING AMERICAN EMPLOYEES AND THEIR FAMILIES, 1925.

	Annual death rate per 1,000 population.
White employees from the United States:	
Disease	2.57
External causes	.73
Total	3.30
Families of white employees from the United States:	
Disease	4.27
External causes	.85
Total	5.12
White employees from the United States and their families:	
Disease	3.64
External causes	.81
Total	4.45

Number of American children born on the Isthmus during the year	156
Deaths among American children under 1 year of age	7
Infant mortality rate among American children (number of deaths per 1,000 live births)	44.87

TABLE VII.—BIRTHS AND BIRTH RATES IN THE CANAL ZONE AND THE CITIES OF PANAMA AND COLON.

Place.	Population.	Births.			Rate per 1,000 population.		
		Total.	Alive.	Still-born.	Total.	Alive.	Still-born.
Year 1925:							
Panama	59,635	2,339	2,220	119	39.23	37.23	2.00
Colon	31,285	800	769	31	25.57	24.58	.99
Canal Zone	34,840	651	616	35	18.68	17.68	1.00
Totals	125,760	3,790	3,605	185	30.14	28.67	1.47
Year 1924:							
Panama	59,635	2,271	2,144	127	38.08	35.95	2.13
Colon	31,285	726	690	36	23.21	22.06	1.15
Canal Zone	33,723	730	694	36	21.65	20.58	1.07
Totals	124,643	3,727	3,528	199	29.90	28.30	1.60

TABLE VIII.—INFANT MORTALITY RATES IN THE CANAL ZONE AND THE CITIES OF PANAMA AND COLON.

Place.	Live births.			Deaths among children under 1 year of age.	
	Male.	Female.	Total.	Number.	Rate per 1,000 live births.
Year 1925:					
Panama	1,095	1,125	2,220	260	117.12
Colon	391	378	769	90	117.04
Canal Zone	337	279	616	48	77.92
Totals	1,823	1,782	3,605	398	110.40
Year 1924:					
Panama	1,120	1,024	2,144	296	138.06
Colon	344	346	690	79	114.49
Canal Zone	369	325	694	67	96.54
Totals	1,833	1,695	3,528	442	125.28

TABLE IX.—DISCHARGES AND DEATHS IN HOSPITALS OF THE PANAMA CANAL, 1925.

Diseases.	Total discharges.	Total deaths.	Employees.		Nonemployees.			Non-residents.	
					White.				
			White.	Black.	Army.	Others	Black.	White.	Black.
Epidemic, endemic, and infectious diseases.									
Typhoid fever	11	2				3	4	5	1
Typhoid and paratyphoid clinical	2					2			
Malaria, estivoautumnal	498	7	54	183	27	42	187	11	1
Malaria, tertian	174		26	25	25	27	65	5	1
Malaria, quartan	14			1	6	1	6		
Malaria, mixed	2						2		
Malaria, clinical	33		6	9	2	3	11	2	
Hemoglobinuria, malarial	2	1				1	1	1	
Smallpox	0	0							
Measles	136		2		9	123	2		
Scarlet fever	1				1				
Whooping cough	4					1	3		
Diphtheria	16	1				6	9	2	
Diphtheria bacillus carrier	3						2	1	
Influenza with pulmonary complications specified	4		1		1	1	1		
Influenza without pulmonary complication specified	65		20	11	7	15	10	2	
Mumps	16				13	2		1	
Asiatic cholera	0	0							
Dysentery, amebic	13					2	1	10	
Dysentery, bacillary	11	3		1		6	5	2	
Dysentery, unclassified	6		2			3	1		
Plague, bubonic	0	0							
Yellow fever	0	0							
Leprosy	3					1	1	1	
Erysipelas	7	1	1			5	7	7	
Acute anterior poliomyelitis	8	1				6	2	1	
Lethargic encephalitis	2			1		1			
Meningococcus meningitis	1	1			2				
Chicken pox	42			12	7	12	9	1	1
German measles	3				1	2			
Other epidemic and endemic diseases	13		4		5	4			
Tetanus	1						1		
Mycoses	1		1						
Tuberculosis of the respiratory system	66	32	7	14	16	14	33	12	2
Tuberculosis of the meninges and central nervous system	2	5				1	6		
Tuberculosis of the intestines and peritoneum	9	1				2	8		
Tuberculosis of the vertebral column	1						1		
Tuberculosis of the joints	2					1	1		
Tuberculosis of the skin and subcutaneous tissue	2			1	1				
Tuberculosis of the bones (vertebral column excepted)	3				1		2		
Tuberculosis of the lymphatic system (mesenteric and retroperitoneal glands excepted)	6			2	1	1	2		
Tuberculosis of the genito-urinary system	2							2	
Tuberculosis of other organs than the above									
Disseminated tuberculosis, acute	1	3		1			3		
Disseminated tuberculosis, chronic or unspecified		2					2		
Primary syphilis	13	1		2	2		4	5	1
Secondary syphilis	23		2	3	10	2	3	3	
Tertiary syphilis	78	4	3	35	2	2	33	7	
Cerebrospinal syphilis	30	3	2	9	7	4	6	4	1
Hereditary spyhilis	7	1				1	5	2	
Other forms of syphilis	49	1	2	22		2	21	3	
Soft chancre	91		2	29	25	2	10	22	1
Chancroidal lymphadenitis	16			5	3		3	4	1
Gonococcic urethritis	177		3	56	49	9	15	42	3
Gonococcic orchitis and epididymitis	7			2	1		2	2	
Gonococcic arthritis	10			2	4	1	1	2	
Gonococcic ophthalmia	5				1		4		
Gonococcic vaginitis	12						12		
Gonococcic bubo	1						1		
Gonococcic salpingitis	2					1	1		
Other gonococcic infection	2			1			1		
Pyemia and septicemia		2					2		
Pyemia	2					1	1		

TABLE IX.—DISCHARGES AND DEATHS IN HOSPITALS OF THE PANAMA CANAL, 1925.—Continued.

Diseases.	Total discharges.	Total deaths.	Employees.		Nonemployees.			Non-residents.	
					White.				
			White.	Black.	Army.	Others	Black.	White.	Black.
Epidemic, endemic, and infectious diseases.—Continued.									
Septicemia	2	3	3	1			1		
Yaws	2						2		
Filariasis	2			1			1		
Other infectious diseases	1		1						
General diseases not included in the above class.									
Cancer and other malignant tumors of the buccal cavity	2	2		2	1	1			
Cancer and other malignant tumors of the stomach and liver	6	8		7			6	1	
Cancer and other malignant tumors of the peritoneum, intestines, and rectum	3	1	1	1		1	1		
Cancer and other malignant tumors of the female genital organs	28	5		1		7	25		
Cancer and other malignant tumors of the breast	9					1	5	3	
Cancer and other malignant tumors of the skin	1					1			
Cancer and other malignant tumors of other or unspecified organs	8	3		6		3	1	1	
Benign tumors and tumors not returned as malignant	44		1	4	9	9	18	3	
Acute rheumatic fever	11			1	1	1	6	2	
Chronic rheumatism, osteoarthritis, gout	7		2		1	2		2	
Pellagra	3	6		2		1	6		
Beriberi	2					1		1	
Rickets	1						1		
Diabetes mellitus	19	1	1	3		3	10	3	
Glycosuria	2					1		1	
Pernicious anemia	2	2				3		1	
Other anemias and chlorosis	3			1			1	1	
Diseases of the pituitary gland	1						1		
Exophthalmic goiter	1	1	1					1	
Other diseases of the thyroid gland	13		1	1	1	8	1	1	
Diseases of the thymus gland	1						1		
Diseases of the spleen	4		1			1	2		
Leukemia		1				1			
Acute alcoholism	28	1	2		12	9	3	3	
Chronic alcoholism	10				3	6	1		
Alcoholic psychosis	5	1			1	2	2	1	
Alcohol poisoning	2	1	1			1	1		
Chronic lead poisoning	5		2	3					
Other chronic poisoning by mineral substances	1							1	
Drug habit	3					1		2	
Other general diseases	35	2	1			16	17	3	
Diseases of the nervous system and of the organs of special sense.									
Simple meningitis		3					3		
Nonepidemic cerebrospinal meningitis		1				1			
Tabes dorsalis (locomotor ataxia)	3		1				1	1	
Other diseases of the spinal cord	2						2		
Cerebral hemorrhage	8	12	2	8		2	7	1	
Hemiplegia	10			1			7	2	
Other paralysis without specified cause	7		1	1			4	1	
General paralysis of the insane	7	8		4		3	8		
Dementia precox	51	1		1	14	13	20	4	
Manic depressive psychosis	21			2	1	9	9		
Toxic psychosis	1						1		
Hypochondriasis	2		1					1	
Other forms of mental alienation	65	1	1	4	25	19	13	3	1
Epilepsy	13	1	2	1	1	3	7		
Convulsions (non-puerperal; 5 years and over)	3		1	1			1		
Infantile convulsions (under 5 years of age)	6	3				3	6		
Chorea	2					1	1		
Neuritis	21		6	1	3	4	3	4	
Hysteria	27		1	1	9	3	10	3	
Other neuralgias	13		2	4	2	3		2	

TABLE IX.—DISCHARGES AND DEATHS IN HOSPITALS OF THE PANAMA CANAL, 1925.—Continued.

Diseases.	Totals discharges.	Total deaths.	Employees.		Nonemployees.			Non-residents.	
					White.				
			White.	Black.	Army.	Others	Black.	White.	Black.
Diseases of the nervous system and of the organs of special sense.—Continued.									
Softening of the brain	1	2				2	1		
Imbecility	4					3	1		
Neurasthenia	26		5	2	8	5	3	3	
Other diseases of the nervous system	20	1		2	8	3	6	2	
Follicular conjunctivitis	21		3	2	6	1	9		
Trachoma	4			2		1	1		
Disease of cornea	53		9	13	12		16	3	
Disease of iris	28			11	9	2	3	3	
Disease of lens	25		1	6	2	3	11	2	
Disease of fundus	12		1	6	4	1			
Other diseases of the eye and annexa	70		3	14	22	8	20	3	
Diseases of the ear	112		7	3	53	26	15	8	
Diseases of the mastoid process	9		1		2	5	1		
Diseases of the circulatory system.									
Pericarditis	6	3					9		
Acute endocarditis	5	5		1		2	5	2	
Acute myocarditis	1						1		
Angina pectoris	1		1						
Other diseases of the heart	52	12	8	11	5	14	24	2	
Aneurysm	3	4		2			5		
Arteriosclerosis	32	4	3	16		2	13	2	
Other diseases of the arteries	5			1	1	2	1		
Embolism and thrombosis (not cerebral)		1		1					
Hemorrhoids	87		11	15	31	9	14	5	2
Varices	10		3	3	1	1	1	1	
Varicocele	3			1	1		1		
Phlebitis	1						1		
Thrombosis	1							1	
Other diseases of the veins	2			2					
Lymphangitis	12		2	3	1	4		2	
Lymphadenitis, nonvenereal	87		7	10	25	8	21	14	2
Lymphangiectasis	1					1			
Other diseases of the lymphatic system	7			1	2	1	3		
Hemorrhage without specified cause (not cerebral)	4				2	1	1		
Other diseases of the circulatory system	6			1		4	1		
Diseases of the respiratory system.									
Diseases of the nasal fossae	160		26	5	81	27	13	7	1
Diseases of the nasal fossae annexa	49		9	9	15	8	7	1	1
Diseases of the larynx	13		2	1	2	4	4		
Acute bronchitis	165		24	18	18	55	40	10	
Chronic bronchitis	9	1	3	1	1	2	2	1	
Bronchopneumonia	38	6	1	4	2	6	31		
Lobar pneumonia	44	16		11	7	7	31	4	
Pneumonia, unspecified	1					1			
Pleurisy	44		2	10	8	4	18	2	
Empyema	9				1	4	3	1	
Other diseases of the pleura	1					1			
Gangrene of the lung		1					1		
Asthma	34		3	4	3	10	13	1	
Other diseases of the respiratory system (tuberculosis excepted)	4	1		1		2	1	1	
Diseases of the digestive system.									
Diseases of the teeth and gums	44		3		17	9	12	3	
Stomatitis	4					1	3		
Other diseases of the mouth and annexa	9			2	1	1	3	2	
Adenoid vegetations	173				1	132	36	4	
Other diseases of pharynx and tonsils	896		81	47	169	220	348	29	2
Diseases of the esophagus	2				1		1		
Ulcer of the stomach	16	1	2	6	1	1		5	2

TABLE IX.—DISCHARGES AND DEATHS IN HOSPITALS OF THE PANAMA CANAL, 1925.—Continued.

Diseases.	Total discharges.	Total deaths.	Employees.		Nonemployees.			Non-residents.	
					White.				
			White.	Black.	Army.	Others	Black.	White.	Black.
Diseases of the digestive system.—Continued.									
Ulcer of the duodenum	26	2	4	7	9	2	5	1	
Gastrectasis	1			1					
Acute gastritis	37		8	3	9	5	10	2	
Chronic gastritis	28		4	3	13	2	5	1	
Acute indigestion	21		1	5	9	3	3		
Other diseases of the stomach (cancer excepted)	55		8	3	15	13	5	11	
Enteritis, colitis, or entero-colitis (under 2 years)	27	2			1	16	11	1	
Intestinal autointoxication (under 2 years)	24				3	16	4	1	
Enteritis, colitis, or entero-colitis (2 years and over)	56		5	9	8	14	9	11	
Intestinal autointoxication (2 years and over)	61		3	4	7	32	12	3	
Ankylostomiasis	25		2	7		5	10	1	
Cestodes (hydatids of the liver excepted)	1						1		
Nematodes (other than ankylostoma)	8			1			2	5	
Other parasites, specified	7					1	5	1	
Parasites not specified	1						1		
Acute appendicitis	118	4	12	8	61	23	9	9	
Chronic appendicitis	104		6	3	54	27	6	8	
Hernia	135		15	35	29	17	20	18	1
Intestinal obstruction	5	7		1	1	6	4		
Other diseases of the intestines	111	1	9	22	27	15	28	11	
Cirrhosis of the liver not specified as alcoholic	1	1	1				1		
Biliary calculi	9	1	2		3	4	1		
Abscess of the liver (unqualified)	2			1				1	
Cholecystitis	33		6	5	7	4	7	4	
Other diseases of the liver	35		6	5	7	6	5	6	
Diseases of the pancreas	1				1				
Peritonitis without specified cause (except puerperal)	7	3	1	1	2		5	1	
Other diseases of the digestive system (cancer and tuberculosis excepted)	8				5	1	2		
Nonvenereal diseases of the genito-urinary system and annexa.									
Acute nephritis (including unspecified under 10 years of age)	18	9	1	4		5	15	2	
Chronic nephritis (including unspecified 10 years and over)	61	20	5	14	4	19	34	5	
Pyonephritis	2	3			1	1	3		
Pyelonephrosis	19	2	2	1	3	6	9		
Pyelitis	89		6	7	11	28	36	1	
Perinephritic abscess	4				1	2		1	
Hydronephrosis	1		1						
Movable kidney	2					1	1		
Other diseases of the kidneys and annexa (puerperal nephritis excepted)	13			1	2	5	5		
Calculi of the urinary passages	39	1	8	9	3	15	4	1	
Diseases of the bladder	38		8	3	8	8	8	2	1
Stricture of the urethra	43	1	2	20	6	5	6	5	
Other diseases of the urethra	8			2			5	1	
Acute prostatitis	3		2	1					
Chronic prostatitis	5		4	1					
Abscess of the prostate	4	1	1	1		2		1	
Hypertrophy of the prostate	13	1	1	3		2	3	5	
Hematocele	1						1		
Hydrocele	18		1	9	2	1	4	1	
Chylocele									
Other nonvenereal diseases of the male genital organs, under this title	42		6	8	10	6	8	3	1
Cysts and other benign tumors of the ovary	22					5	17		
Salpingitis and pelvic abscess (female)	93	2	1	2		16	74	2	
Benign tumors of the uterus	54			1		9	43	1	
Nonpuerperal uterine hemorrhage	10		1			4	5		
Leukorrhea	4					1	1	2	
Dysmenorrhea	11		2			6	3		
Cervicitis	10			1		2	6	1	
Endometritis	27		1			12	14		
Stenosis of cervix	1					1			
Metritis	1						1		

TABLE IX.—DISCHARGES AND DEATHS IN HOSPITALS OF THE PANAMA CANAL, 1925.—Continued.

Disease.	Total discharges.	Total deaths.	Employees.		Nonemployees.			Non-residents.	
					White.				
			White.	Black.	Army.	Others	Black.	White.	Black.
Nonvenereal diseases of the genito-urinary system and annexa.—Continued.									
Prolapsus uteri	4	1					4	1	
Lacerations, old or recent, of cervix and perineum	24			1		9	14		
Benign tumors of the female genital organs (except of uterus)	3		1			1	1		
Other diseases of the female genital organs	74		2	2		20	48	2	
Nonpuerperal diseases of the breast (cancer excepted)	17					1	16		
The puerperal state.									
Abortion (miscarriage, premature birth, etc.)	85	1		1		39	45	1	
Ectopic gestation	10	1		1		2	8		
Other accidents of pregnancy	63	3				22	44		
Puerperal hemorrhage	11					4	7		
Cesarean section	6					4	1	1	
Other surgical operations and instrumental delivery	22					10	12		
Other accidents of labor	21					10	11		
Puerperal septicemia	2	3				2	3		
Puerperal albuminuria and convulsions	7	3				1	9		
Following childbirth (not otherwise defined)	14					2	12		
Puerperal diseases of the breast	12					2	10		
Diseases of the skin and of the cellular tissue.									
Gangrene	5	2		3		3	1		
Furuncle	20	1	4	2	3	5	3	4	
Acute abscess	161	1	20	23	22	23	62	11	1
Trichophytosis	14		1		5	5	3		
Scabies	5				1	3	1		
Dhobie itch	8		1	1		3	2	1	
Prickly heat	5		1	2		1	1		
Ulcer of the skin	22		1	3	5	1	12		
Oriental sore (Leishmaniasis)	1			1					
Tropical ulcer	2					1	1		
Ulcerating granuloma of the pudenda	2					2			
Impetigo contagiosa	9				1	6	2		
Impetigo simplex	2					1	1		
Urticaria	11		5			3	2	1	
Eczema	11		2	1	3	1	2	2	
Ingrowing nail	21		6		2	8	5		
Other diseases of the skin and annexa	47		4	5	9	11	14	4	
Diseases of the bones and of the organs of locomotion.									
Osteomyelitis	21		1	2	2	3	10	3	
Periostitis	7			3		1	2	1	
Other diseases of the bones (tuberculosis and sinusitis excepted)	4		1		1		1	1	
Ankylosis	1						1		
Arthritis	43	1	7	7	10	3	11	6	
Synovitis	8			5	1	1	1		
Other diseases of the joints (tuberculosis and rheumatism excepted)	13		3	1	4	2	1	2	
Other diseases of the organs of locomotion	67		13	14	20	11	4	4	1
Malformations.									
Congenital hydrocephalus	3			1			2		
Congenital malformations of the heart	2	2				2	2		
Other congenital malformations	94	1		3	9	25	57	1	
Early infancy.									
Congenital debility	2	2					4		
Icterus of the newborn		2				1	1		
Malnutrition	13	6				5	14		
Premature birth (less than 1 year only)	1	11				3	9		
Injury at birth (less than 3 months only)	1						1		
Other diseases peculiar to early infancy	10	1				2	9		

TABLE IX.—DISCHARGES AND DEATHS IN HOSPITALS OF THE PANAMA CANAL, 1925.—Continued.

Diseases.	Total discharges.	Total deaths.	Employees.		Nonemployees.			Non-residents.	
			White.	Black.	White.		Black.	White.	Black.
					Army.	Others			
Old age.									
Senility	12	1	.....	1	.....	1	1	.....	.....
External causes.									
Attempted suicide by corrosive substance	1	.....	1	.....	.....	.....	.....	.....	.....
Suicide by firearms	.....	1	.....	.....	1	.....	.....	.....	.....
Poisoning by food	30	.....	6	5	16	2	.....	1	.....
Poisoning by venomous animals	6	2	.....	.....	2	1	5	.....	.....
Other acute accidental poisonings (gas excepted)	8	1	1	1	4	1	2	.....	.....
Accidental burns (conflagration excepted)	42	5	1	7	3	1	26	8	1
Accidental absorption of irrespirable, irritating or poisonous gas	.....	1	.....	.....	.....	1	.....	.....	.....
Accidental traumatism by firearms	15	1	1	1	8	1	5	.....	.....
Accidental traumatism by cutting or piercing instruments	25	.....	.....	4	10	4	7	.....	.....
Accidental traumatism by fall	84	3	6	11	16	9	34	11	.....
Accidental traumatism in quarries	1	.....	.....	.....	1	.....	.....	.....	.....
Accidental traumatism by machines	14	1	.....	6	3	.....	1	5	.....
Railroad accidents	5	3	1	5	.....	.....	2	.....	.....
Street car accident	1	.....	.....	.....	1	.....	.....	.....	.....
Automobile accidents	28	1	3	6	3	8	9	.....	.....
Aeroplane and balloon accidents	1	.....	.....	.....	1	.....	.....	.....	.....
Motorcycle accidents	5	.....	2	.....	3	.....	.....	.....	.....
Injury by other vehicles	4	.....	1	1	1	.....	1	.....	.....
Landslide, other crushing	9	1	1	2	1	.....	4	1	1
Injuries by animals (not poisoning)	8	.....	.....	1	5	1	.....	1	.....
Starvation (deprivation of food or water)	1	.....	.....	.....	.....	.....	.....	1	.....
Excessive heat	7	.....	1	1	1	1	.....	3	.....
Accidental electric shocks	2	1	2	.....	.....	.....	.....	1	.....
Homicide and attempted homicide by firearms	2	1	.....	.....	3	.....	.....	.....	.....
Homicide by other means	.....	1	.....	.....	.....	.....	1	.....	.....
Fracture	191	.....	15	46	42	19	44	23	[2
Dislocation	4	.....	.....	1	3	.....	.....	.....	.....
Sprain	24	.....	2	4	10	1	5	1	1
Other external violence	187	4	17	94	14	10	42	12	2
Ill-defined diseases.									
Sudden death	1	.....	.....	.....	.....	1	.....	.....	.....
Ill-defined	28	.....	8	1	4	11	2	2	.....
Not specified or unknown	.....	3	.....	1	1	.....	.....	1	.....
Infection of undetermined origin	43	2	7	6	8	8	16	.....	.....
Feigned disease	1	.....	.....	.....	.....	.....	1	.....	.....
Surgical operation and shock	3	.....	.....	.....	.....	2	.....	1	.....
Normal physiological conditions.									
Normal pregnancy	41	.....	.....	.....	.....	14	26	1	.....
Normal labor	507	.....	.....	.....	.....	178	326	3	.....
Lactating breasts	16	.....	.....	.....	.....	9	7	.....	.....
Newborn child	580	.....	.....	.....	.....	207	369	4	.....
No disease (companion, observation, etc.)	330	.....	15	13	37	144	68	150	[3
Totals	9,539	334	707	1,252	1,456	2,334	3,447	640	37

TABLE X.—CONSOLIDATED HOSPITAL AND ASYLUM REPORT.

	Remaining January 1, 1925.			Admitted.			Died.			Discharged.			Transferred.			Remaining Dec. 31, 1925.		
	White American	White foreign.	Black.	White American	White foreign.	Black.	White American	White foreign.	Black.	White American	White foreign.	Black.	White American	White foreign.	Black.	White American	White foreign.	Black.
Ancon Hospital:																		
Employees	15	7	62	518	78	1,134	7	2	55	509	81	1,060	.....	.....	13	17	2	68
Army and Navy	63	.....	.....	1,288	.....	.....	10	.....	.....	1,260	.....	.....	12	.....	.....	69	.....	.....
Panama Government	.....	1	3	.....	2	20	.....	1	2	.....	.....	5	.....	2	15	.....	.....	1
Charity	4	6	17	251	69	556	4	1	34	244	69	473	3	1	24	4	4	42
All others	53	32	73	1,340	815	2,054	17	20	93	1,326	790	1,949	4	7	15	46	30	70
Totals	135	46	155	3,397	964	3,764	38	24	184	3,339	940	3,487	19	10	67	136	36	181
Corozal Hospital:																		
Employees	.....	1	12	.....	.....	8	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	1	12
Army and Navy	1	.....	.....	21	.....	.....	.....	.....	.....	20	.....	.....	.....	.....	.....	2	.....	.....
Panama Government	.....	75	204	.....	21	63	.....	3	11	.....	21	23	.....	2	9	.....	70	224
Charity	.....	9	30	1	5	8	.....	2	5	1	4	11	.....	.....	1	.....	8	21
All others	1	9	33	4	12	18	.....	.....	2	5	7	10	.....	1	1	.....	13	38
Totals	2	94	279	26	38	97	.....	5	18	26	32	52	.....	3	11	2	92	295
Cripples	.....	2	24	.....	4	9	.....	.....	.....	.....	1	3	.....	1	4	.....	4	26
Chronic medical and surgical cases	.....	3	28	.....	1	42	.....	.....	4	.....	1	35	.....	.....	1	.....	3	30
Colon Hospital:																		
Employees	3	.....	5	124	4	189	1	.....	13	104	3	116	19	1	60	3	.....	5
Army and Navy	2	.....	.....	208	.....	.....	2	.....	.....	163	.....	.....	43	.....	.....	2	.....	.....
Charity	2	1	5	73	16	259	2	1	10	68	15	233	3	.....	17	2	1	4
All others	4	7	13	282	153	742	2	3	31	241	122	598	38	34	117	5	1	9
Totals	11	8	23	687	173	1,190	7	4	54	576	140	947	103	35	194	12	2	18
Palo Seco Leper Colony:																		
Panama Government	.....	8	59	.....	1	6	.....	1	6	.....	.....	.....	.....	.....	.....	.....	8	59
Charity	.....	.....	27	.....	1	4	.....	.....	1	.....	.....	[1] 1	.....	.....	.....	.....	1	29
Totals	.....	8	86	.....	2	10	.....	1	7	.....	.....	[1] 1	.....	.....	.....	.....	9	88
Totals by classes:																		
Employees	18	8	79	642	82	1,331	8	2	68	613	84	1,184	19	1	73	20	3	85
Army and Navy	66	.....	.....	1,517	.....	.....	12	.....	.....	1,443	.....	.....	55	.....	.....	73	.....	.....
Panama Government	.....	84	266	.....	24	89	.....	5	19	.....	21	28	.....	4	24	.....	78	284
Charity cripples and chronics	6	21	131	325	96	878	6	4	54	313	90	756	6	2	47	6	21	152
All others	58	48	119	1,626	980	2,814	19	23	126	1,572	919	2,557	42	42	133	51	44	117
Grand totals	148	161	595	4,110	1,182	5,112	45	34	267	3,941	1,114	4,525	122	49	277	150	146	638

[1] Paroled.

TABLE XI.—NUMBER OF DAYS HOSPITAL TREATMENT FURNISHED VARIOUS CLASSES OF PATIENTS AND AVERAGE NUMBER IN HOSPITAL EACH DAY, 1925.

Class of patient.	Number of days treatment.				Average number in hospital each day.			
	American.	Foreign.	Black.	Total.	American.	Foreign.	Black.	Total.
Ancon Hospital:								
Employees	5,932	1,821	28,054	35,807	16.25	4.99	76.86	98.10
Army and Navy	23,870	.....	.....	23,870	65.40	.....	.....	65.40
Panaman Government	.....	51	300	351	.....	.14	.82	.96
Charity	2,735	1,421	9,478	13,634	7.49	3.89	25.97	37.35
All others	14,049	13,434	33,284	60,767	38.49	36.81	91.19	166.49
Totals	46,586	16,727	71,116	134,429	127.63	45.83	194.84	368.30
Corozal Hospital:								
Employees	.....	365	4,742	5,107	.....	1.00	12.99	13.99
Army and Navy	921	.....	.....	921	2.52	.....	.....	2.52
Panaman Government	.....	27,082	77,662	104,744	.....	74.20	212.77	286.97
Charity	197	2,792	10,680	13,669	.54	7.65	29.26	37.45
All others	276	4,619	13,157	18,052	.76	12.65	36.05	49.46
Total (insane)	1,394	34,858	106,241	142,493	3.82	95.50	291.07	390.39
Cripples [1]	.....	945	9,988	10,933	.....	2.59	27.36	29.95
Chronic medical and surgical cases	.....	1,117	10,473	11,590	.....	3.06	28.69	31.75
Colon Hospital:								
Employees	975	22	1,512	2,509	2.67	.06	4.14	6.87
Army and Navy	1,683	.....	.....	1,683	4.61	.....	.....	4.61
Panaman Government	.....	.....	.....	.....	.....	.....	.....	.....
Charity	767	131	1,950	2,848	2.10	.36	5.34	7.80
All others	1,542	1,334	5,392	8,268	4.23	3.65	14.78	22.66
Totals	4,967	1,487	8,854	15,308	13.61	4.07	24.26	41.94
Palo Seco Leper Colony:								
Panaman Government	.....	2,882	21,108	23,990	.....	7.90	57.83	65.73
Charity	.....	.....	10,273	10,273	.....	.....	28.15	28.15
Totals	.....	2,882	31,381	34,263	.....	7.90	85.98	93.88
Totals by classes:								
Employees	6,907	2,208	34,308	43,423	18.92	6.05	93.99	118.96
Army and Navy	26,474	.....	.....	26,474	72.53	.....	.....	72.53
Panaman Government	.....	30,015	99,070	129,085	.....	82.24	271.42	353.66
Charity, cripples, and chronics	3,699	6,406	52,842	62,947	10.13	17.55	144.77	172.45
All others	15,867	19,387	51,833	87,087	43.48	53.11	142.02	238.61
Grand totals	52,947	58,016	238,053	349,016	145.06	158.95	652.20	956.21

[1] These cripples require no medical attention.

TABLE XII.—REPORT OF DISPENSARIES 1925.

EMPLOYEES TREATED IN QUARTERS.

Dispensary.	Remaining January 1, 1925.		Admitted.		Died.		Discharged.		Transferred.		Remaining December 31, 1925.	
	White.	Black.	White.	Black.	White.	Black.	White.	Black.	White.	Black.	White.	Black.
Ancon	.....	3	943	776	.....	.....	914	730	25	42	4	7
Balboa	4	.....	1,239	75	.....	.....	1,241	74	.....	.....	2	1
Pedro Miguel	.....	.....	142	203	.....	.....	139	198	1	5	2	.....
Gatun	.....	1	108	154	.....	.....	106	151	1	4	1	.....
Colon	.....	17	371	487	.....	.....	371	494	.....	.....	.....	10
Totals	4	21	2,803	1,695	.....	.....	2,771	1,647	27	51	9	18

Dispensary furnishing treatment.	Days treatment furnished.			Average number treated in quarters per day.		
	White.	Black.	Total.	White.	Black.	Total.
Ancon	2,161	3,858	6,019	5.92	10.57	16.49
Balboa	3,085	639	3,724	8.45	1.75	10.20
Pedro Miguel	165	385	550	.45	1.06	1.51
Gatun	508	686	1,194	1.39	1.88	3.27
Colon	1,232	5,081	6,313	3.38	13.92	17.30
Totals	7,151	10,649	17,800	19.59	29.18	48.77

ALL CASES TREATED.

Dispensary	Employees.			Nonemployees.			Total.		
	White.	Black.	Total.	White.	Black.	Total.	White.	Black.	Total.
Ancon	7,763	14,590	22,353	5,755	12,230	17,985	13,518	26,820	40,338
Balboa	14,221	16,074	30,295	18,259	8,432	26,691	32,480	24,506	56,986
Pedro Miguel	3,018	5,710	8,728	4,778	9,601	14,379	7,796	15,311	23,107
Gatun	3,288	7,708	10,996	3,911	4,962	8,873	7,199	12,670	19,869
Colon	4,394	18,544	22,938	4,956	13,711	18,667	9,350	32,255	41,605
Totals	32,684	62,626	95,310	37,659	48,936	86,595	70,343	111,562	181,905

TABLE XIII.—CONSOLIDATED ADMISSION REPORT, HOSPITALS AND DISPENSARIES, 1925.

All classes of patients.	White.	Black.	Total.
Admission to hospitals, excluding Corozal farm (cripples and chronic ward)	5,287	5,061	10,348
Admission of employees to quarters	2,803	1,695	4,498
Total admissions to hospitals and quarters	8,090	6,756	14,846
Less number of patients transferred between hospitals and from quarters to hospitals, whose admissions are duplicated in the above figures	197	323	520
Net admissions to hospitals and quarters	7,893	6,433	14,326
Employees only.			
Employees admitted to hospitals	719	1,280	1,999
Employees admitted to quarters	2,803	1,695	4,498
Total admissions of employees	3,522	2,975	6,497
Less number transferred between hospitals and from quarters to hospitals, whose admissions are duplicated in the above figures	47	124	171
Net admissions of employees	3,475	2,851	6,326
Annual admission rate per 1,000 employees to hospitals and quarters	1,112.71	314.78	519.38

AVERAGE NUMBER OF DAYS IN HOSPITALS AND QUARTERS FOR EACH ADMISSION, EMPLOYEES ONLY.

	White.	Black.	Total.
Hospitals:			
Ancon	12.60	23.51	19.71
Colon	7.17	7.34	7.27
Average for hospitals	11.65	21.18	17.78
Quarters:			
Ancon	1.89	3.85	2.78
Balboa	2.38	9.07	2.76
Pedro Miguel	2.88	4.46	3.81
Gatun	5.23	4.68	4.90
Colon	3.57	11.04	7.83
Average for quarters	2.51	6.32	3.95

TABLE XIV.—COROZAL HOSPITAL, STATEMENT OF COMMITMENTS AND DISCHARGES, 1925

COMMITMENTS.

	From Canal Zone.		From Panama.		Total.
	Male.	Female.	Male.	Female.	
First admission	49	22	32	30	133
Second admission	.....	4	4	8	16
Third admission	.....	1	1	.....	2
Fourth admission	.....	.....	.....	1	1
Sixth admission	.....	.....	.....	1	1
Totals	49	27	37	40	153

DISCHARGES.

	Male.	Female.	Total.
Well	12	19	31
Improved	32	14	46
Unimproved	21	12	33
Totals	65	45	110

TABLE XV.—FORCE REPORT.

	December 31, 1925.			1924.	1923.
	Gold.	Silver.	Total.		
Chief Health Office	5	.....	5	6	4
Quarantine Service	11	23	34	34	33
Health Office, Panama	9	124	133	124	154
Health Office, Colon	7	65	72	64	78
Ancon Hospital	135	208	343	331	352
Colon Hospital	22	35	57	57	54
Santo Tomas Hospital	.....	.....	.....	.....	6
Palo Seco Leper Colony	2	34	36	38	37
Zone Sanitation	5	161	166	118	96
Corozal Hospital	16	103	119	121	110
Line dispensaries	12	8	20	19	20
Totals	224	761	985	912	938

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